THE RESTORATION INITIATIVE

2022 YEAR IN REVIEW

THE RESTORATION INITIATIVE

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THE RESTORATION INITIATIVE

2022 YEAR IN REVIEW

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CONTENTS

iv ACKNOWLEDGEMENTS

v FOREWORD

vii COALITION OF PARTNERS

01 PROGRAMME APPROACH

03 PROGRAMME UPDATE

11 NEW STRIDES FOR COLLABORATION AND SYNERGIES FOR THE TRI COMMUNITY

17 TRI ACHIEVEMENTS IN 2022

17 · CAMEROON

21 · CENTRAL AFRICAN REPUBLIC

25 · CHINA

29 · DEMOCRATIC REPUBLIC OF THE CONGO

33 · GUINEA-BISSAU

37 · KENYA ARID AND SEMI-ARID LANDS

40 · KENYA TANA DELTA

43 · PAKISTAN

47 · SAO TOME AND PRINCIPE

51 · UNITED REPUBLIC OF TANZANIA

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FOREWORD

FOREST AND LANDSCAPE RESTORATION TO IMPLEMENT NEW GLOBAL GOALS

The end of 2022 was eventful, with key global intergovernmental meetings resulting in crucial decisions to accelerate transformative actions in the current decade, particularly on climate change and biodiversity. Among the critical actions, nature emerged as a key part of implementation, with a new Kunming-Montreal Global Biodiversity Framework under the United Nations Biodiversity Conference (COP15), which sets up "30x30" targets for restoration and protection of ecosystems and with nature-based solutions (NbS) expressly referred to in decisions concerning climate change. This gives further boost to approaches, such as forest and landscape restoration (FLR), that underpin NbS to conserve, restore and sustainably manage natural resources for the environment and communities alike.

In addition to significant political decisions, announcements were made on new finance, partnerships and progress on FLR, including the African Restoration Fund in partnership with AFR100, the rollout of the Forest and Climate Leaders' Partnership, the 10-Point Plan for Financing Biodiversity under the Convention on Biological Diversity and tangible restoration progress by several governments and companies reported via the IUCN Restoration Barometer. These are strong signals that FLR is catalytic in tackling climate change, restoring biodiversity and improving livelihoods and sustainable development, and embodying opportunities for investment, action and high impact.

The Restoration Initiative (TRI) is an emblematic initiative to guide restoration efforts that are expected to arise as a result of the international political context. With nine countries in Africa and Asia working under this programme since 2018 to transform vast landscapes towards the restoration of mangroves, arid lands and tropical forests, TRI is demonstrating how ecosystem restoration is to be implemented for long-term and sustained results.

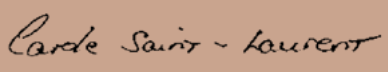
As COVID-19 pandemic restrictions were lifted, TRI partners accelerated implementation, which is shown in the steep increase in hectares under restoration and improved land management practices, financial resources deployed for FLR, improved national and subnational policy frameworks for FLR, and enhanced capacities across stakeholders on FLR practices and technology, restoration assessments, nursery development, among other things. Importantly, TRI has, once again, successfully brought together local communities and decision-makers who have experienced the value of restoring forests and landscapes, and are working together to deliver impact.

Increasing public, private and local investment in large-scale landscape restoration is a top priority for implementation and for TRI. In addition to funding opportunities and partnerships sought after by each of the country teams, tools like the Restoration Explorer were developed to assist countries with less mature commercial FLR ecosystems in evaluating compatible business opportunities, helping to develop a road map that outlines enterprise development steps to be taken, and highlighting critical gaps that need addressing. Moreover, the Restoration Factory incubation programme continued to foster entrepreneurship on the ground in Kenya by welcoming a second cohort of ecopreneurs, who worked throughout 2022 in a step-by-step, mentor-guided process to develop their landscape restoration-focused business models. Sixteen ecopreneurs pitched their enterprises to the TRI community during the third and fourth global learning workshop in 2022, which took place in Nairobi, Kenya. This was an inspiring experience that aimed to motivate and guide TRI countries as they continue identifying ways to

structure FLR as a sustainable business for local communities.

In 2022, progress was also made in advancing work on the TRI components of capacity building, and partnerships and outreach for enhanced programme impact. For the former, the TRI global team organized several knowledge-sharing webinars and FLR training courses and continued serving a vibrant community of practice reaching over 2 400 implementers. Key events were organized including at the XV World Forestry Congress and Expo Dubai.

After this motivating year, 2023 is shaping up for TRI to be a further re-energized community of action, which benefits from increased synergies among countries, targeted technical support following the plan laid out in the last global workshop, and reinforced partnerships at the international and regional level. Stay tuned!



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COALITION OF PARTNERS

The Restoration Initiative (TRI) unites ten Asian and African countries and three Global Environment Facility agencies – the International Union for Conservation of Nature, the Food and Agriculture Organization of the United Nations, and the United Nations Environment Programme – along with national and local governments and a host of strategic partners in working to overcome existing barriers to restoration and restore degraded landscapes at scale, in support of the Bonn Challenge.

FOUNDING PARTNERS

TRI is supported by the **Global Environment Facility (GEF)**. The initiative contributes to the GEF's commitment to assist developing countries in meeting the objectives of multilateral environmental agreements, including those on combating land degradation, mitigating climate change and halting biodiversity loss. GEF support for TRI is also enabling partner countries to deliver on commitments made to larger restoration initiatives, including the Bonn Challenge and AFR 100.

The **International Union for Conservation of Nature (IUCN)** serves as lead agency for TRI, providing programmatic coordination, integration, and harmonization of work across the 11 country projects, agencies, and partners. IUCN is also leading support for partnering countries in strengthening the enabling in-country policy environment for forest landscape restoration. IUCN is the implementing agency for four TRI national projects in Cameroon, China, Guinea-Bissau and Myanmar.

The **Food and Agriculture Organization of the United Nations (FAO)** leads support for partnering countries in the capture and dissemination of best practices on forest landscape restoration and in capacity building on a wide range of tools and topics integral to this subject. FAO is the implementing agency for five TRI national projects in the Central African Republic, the Democratic Republic of the Congo, Kenya's arid and semi-arid lands, Pakistan, and Sao Tome and Principe.

The **United Nations Environment Programme (UNEP)**, through their UN Environment Finance Initiative, a 25-year public–private collaboration with a network of more than 300 financial institutions, supports partnering countries through technical assistance and capital markets connections in efforts to mobilize and catalyse domestic and external funding for large-scale restoration. UNEP is the implementing agency for two TRI national projects in the Kenya Tana delta and the United Republic of Tanzania.

EXECUTING AND GOVERNMENT PARTNERS

Nature Kenya (Kenya, Tana delta)

Kenya Forestry Research Institute (Kenya, arid and semi-arid lands)

The International Network for Bamboo and Rattan (Cameroon)

Institute for Biodiversity and Protected Areas (Guinea-Bissau)

Ministry of Environment and Sustainable Development (Democratic Republic of the Congo)

Ministry of Agriculture and Rural Development, through the Directorate of Forests (Sao Tome and Principe)

Ministry of Natural Resources and Environmental Conservation, Forest Department (Myanmar)

Ministry of Climate Change (Pakistan)

Vice-President's Office in partnership with the National Environment Management Council (United Republic of Tanzania)

Ministry of Environment, Sustainable Development, Water, Forestry, Hunting and Fisheries (Central African Republic)

National Forestry and Grassland Administration (China)

ADDITIONAL PARTNERS

The Alliance – Bioversity International (now together with the International Center for Tropical Agriculture (CIAT), The Alliance) provides technical support through the development of training modules and the facilitation of capacity development for national TRI project teams on forest genetic resources for forest landscape restoration.

Newcastle University – Researchers at Newcastle University, in the United Kingdom of Great Britain and Northern Ireland, together with IUCN, are supporting development and piloting of the Species Threat Abatement and Recovery (STAR) metric – a new tool providing practitioners with enhanced information on the impacts of restoration actions on threatened biodiversity. The use of STAR is being piloted in five TRI projects: Cameroon, Central African Republic, Kenya (both projects) and Myanmar.

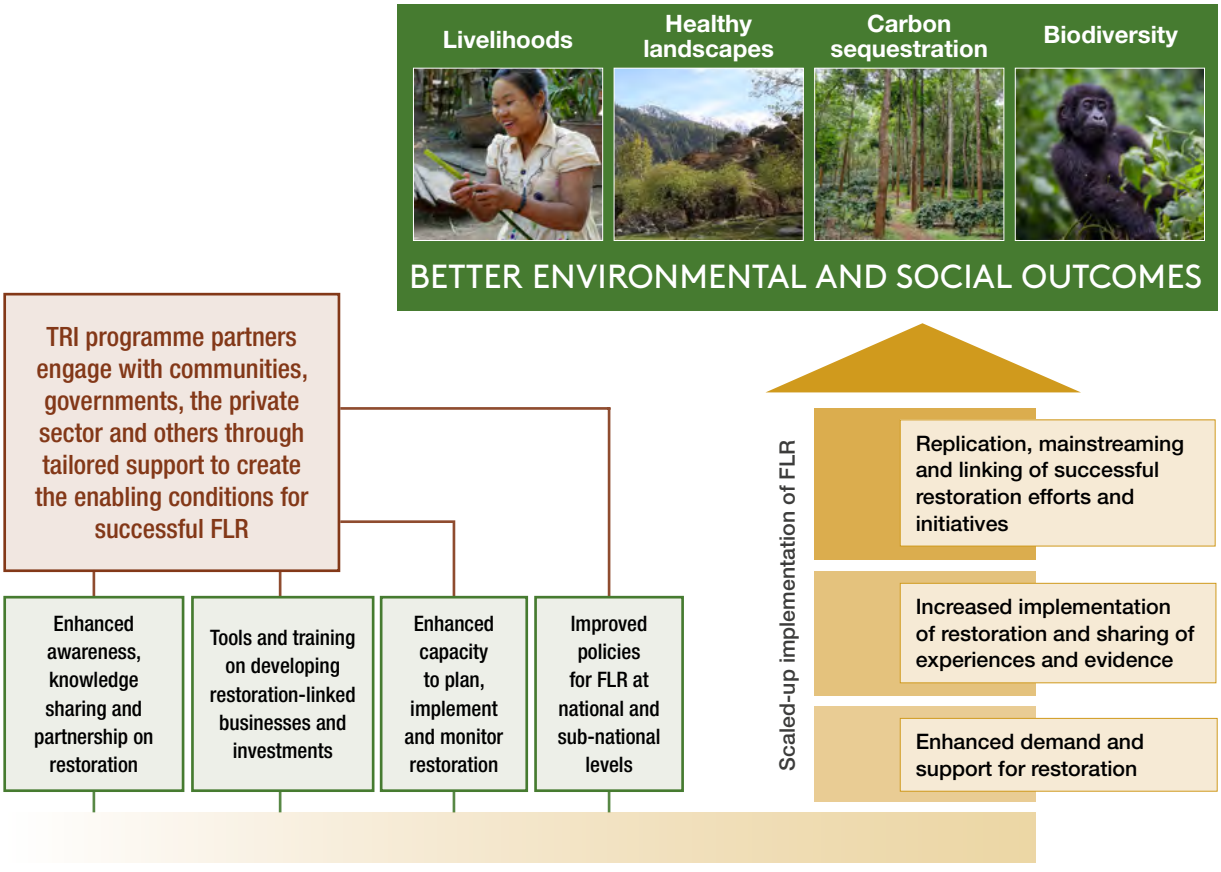
WRI – The World Resources Institute has supported TRI national projects in the Central African Republic, the Democratic Republic of the Congo and Kenya by conducting assessments on restoration needs and opportunities using the Restoration Opportunities Assessment Methodology.

PROGRAMME APPROACH

"Land degradation is one of the defining challenges of our time. Global estimates suggest that nearly 2 billion hectares (ha) of agricultural land, pasture, forest and woodland are degraded."[1] Restoration of deforested and degraded lands is essential to addressing global challenges including climate change, biodiversity loss, and the need for healthy sustainable food systems and a thriving economy.

TRI is designed to address key and common barriers to expanding and scaling-up restoration. The programmatic approach leverages each partner agency's strengths and ongoing work on forest landscape restoration (FLR) while providing extensive opportunities for South-South knowledge capture and sharing.

THE RESTORATION INITIATIVE APPROACH


Livelihoods
Healthy landscapes
Carbon sequestration
Biodiversity
BETTER ENVIRONMENTAL AND SOCIAL OUTCOMES
TRI programme partners engage with communities, governments, the private sector and others through tailored support to create the enabling conditions for successful FLR
Enhanced awareness, knowledge sharing and partnership on restoration
Tools and training on developing restoration-linked businesses and investments
Enhanced capacity to plan, implement and monitor restoration
Improved policies for FLR at national and sub-national levels
Scaled-up implementation of FLR
Replication, mainstreaming and linking of successful restoration efforts and initiatives
Increased implementation of restoration and sharing of experiences and evidence
Enhanced demand and support for restoration

KEY PROGRAMMATIC SUPPORT

- Annual knowledge-sharing workshops and events
- Online community of practice and training opportunities
- Tailored support and training focused on mobilizing investment into FLR
- Development and piloting of new tools and approaches for restoration

TRI PROJECTS

Guinea-Bissau
Cameroon
Central African Republic
Kenya
United Republic of Tanzania
Democratic Republic of the Congo
Sao Tome and Principe
Pakistan
China
Myanmar
Implementing agency
IUCN
FAO
UNEP
THE RESTORATION INITIATIVE
Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

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Notes: - Adapted from: Freepik. 2021. Earth map linear composition. Cited on 7 October 2021. www.freepik.com/free-vector/earth-map-linear-composition_9386670.htm#page=1&query=world%20 - The Myanmar project has been suspended since November 2021 due to the political situation.

PROGRAMME FUNDING

Co-funding
201 million

GEF grants
54 million

PROGRAMME-LEVEL TARGETS

Under restoration
483 245 ha

Under improved management
754 451 ha

GHG mitigation
30.4 million tCO_2eq

Number of direct beneficiaries
287 239 people

PROGRAMME UPDATE

PROGRESS UPDATE ON IMPLEMENTATION OF THE RESTORATION INITIATIVE

2022 marks The Restoration Initiative's (TRI) fourth full year of implementation. While the impact of the COVID-19 pandemic still lingers across the world, including for TRI partners, the year was full of successes for programmatic objectives. As travel restrictions were lifted and further collaboration was made possible, TRI partners were able to coordinate to achieve cross-programmatic goals and learn from one another. Just as 2020 and 2021 were full of transitions and "new normals", 2022 provided a new opportunity for all TRI partners and implementing organizations to re-emphasize the need for locally-led restoration, community engagement and renewed perspective.

Helping local farmers to build capacity in plants grafting for the production of improved variety of non-timber forest products.
Photo credit: © Fogoh John Muafor

PROGRAMME-LEVEL HIGHLIGHTS AND PROGRESS IN 2022

Third and fourth global programme workshops

TRI unites ten Asian and African countries[i] and three Global Environment Facility (GEF) agencies – the International Union for Conservation of Nature (IUCN), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) – in working to overcome existing barriers to scaling up restoration of degraded landscapes in support of the Bonn Challenge. An important part of TRI is the continuous collaboration between the different country teams and the global partners for an effective implementation on the ground. Collaboration is reflected in activities such as exchange of knowledge and building capacities on critical issues, including effective governance, sustainable forest management (SFM), monitoring and adaptive learning, while also providing partners with tools and strategies for developing business proposals in forest and landscape restoration (FLR).

Since the launch of TRI, two face-to-face global events were organized in Naivasha, Kenya, in 2018 and in Rome, Italy, in 2019. One virtual global knowledge-sharing webinar was organized in February 2022 to promote knowledge exchange and capacity development.

To further expand upon cross-programmatic collaboration, a global workshop was held in Nairobi, Kenya on 14–18 November 2022. This meeting was the first in-person meeting since the COVID-19 pandemic started, allowing participants to directly interact with each other to promote valuable learning.[ii] *Read more about the workshop in the featured story.*

Mid-term review process

To reflect upon the years of success and ways to improve, TRI underwent a mid-term review process in 2022. Findings showcased that progress towards results and project implementation have been satisfactory thus far. Each component of the project varied in effectiveness. Overall, with 74 percent of outputs completed and 83 percent of the expected mid-term targets achieved, the consensus is that, although the project is on track to implement its activities and achieve outcomes successfully, the COVID-19 pandemic and consequent extension of countries' projects necessitate an extension for the global programme. To respond to this emerging context and the needs of country projects, the project steering committee agreed to extend the timeline of the global project through mid-2024. The action plan emerging from the mid-term review includes a review of the global results framework, doubling down on cross-programmatic collaboration and maximizing opportunities to create additional partnerships, and increasing TRI's visibility and possible opportunities for long-term sustainability. The mid-term review process was helpful to showcase how TRI has been successful so far and highlight critical areas of work to expand on for future years of implementation – to ultimately achieve sustainability in the longer term.

Events at the XV World Forestry Congress

The XV World Forestry Congress was held in Seoul, Republic of Korea, in May 2022. TRI was engaged in two side events, including:

1. Development of forest and landscape restoration strategies at different scales to achieve restoration commitments and scale up action on the ground (3 May 2022): The side event shared experiences on the participatory process to develop FLR strategies and demonstrate how stakeholders across different sectors came together to efficiently plan, monitor and evaluate progress made towards the international commitments, and highlighted resource mobilization efforts for FLR.

i. There are currently nine countries actively engaged, as the project engagements in Myanmar were suspended in 2021 due to the political situation.

ii. Because of the COVID-19 pandemic, the third global learning workshop was delayed. As such, the 2022 learning workshop was labelled as both third and fourth learning workshop.

2. The Restoration Initiative: A programme addressing restoration of degraded and deforested lands for the well-being of people and nature (4 May 2022): The side event shared experiences and lessons learned so far. During the session, participants engaged with country representatives who presented examples of the varied technical tools and approaches provided by the programme to plan, implement and monitor restoration activities.

Sao Tome and Principe participation at Expo Dubai

Implemented by FAO and the Government of Sao Tome and Principe as part of the TRI programme, the GEF "Landscape Restoration Project for Ecosystem Functionality and Climate Change Mitigation in Sao Tome and Principe" featured in the recent Expo Dubai 2020 in the United Arab Emirates with the theme "Connecting Minds – Creating the Future". The attendance of TRI was framed within the partnership between the project and the non-governmental organization (NGO) Alisei, which manages the information and communication aspects of the project in Sao Tome and Principe through an "information hub".

Knowledge-sharing webinar series

TRI global support partners presented a series of three programme-level webinars on 9–23 February 2022. The webinars provided an occasion for country teams to present their achievements and the challenges they experienced during years of TRI implementation.

Capacity development on forest and landscape restoration for young practitioners in West and Central Africa

Twenty-five young professionals from West and Central Africa completed a 7-week journey from February until March 2022 in building capacity, knowledge and networks for FLR. Selected from over 1 200 hopeful applicants, the 25 individuals took part in an online course offered through a collaboration between FAO and the Yale School of the Environment's Environmental Leadership and Training Initiative (YSE-ELTI).

TRI Restoration Factory

The TRI Restoration Factory has been created to support the emergence of commercially viable, community-inclusive and climate-resilient businesses that restore ecosystems and preserve landscapes. The TRI Restoration Factory welcomed its first cohort of 13 entrepreneurs in April 2021. The 6-month mentorship programme provided entrepreneurs with personalized guidance in preparing restoration-based investment proposals and helped to scale up their business models through sustainable management. The programme achieved good results. The second cohort of the programme (with co-funding from the TRI and UNEP Climate Finance Unit) recently came to an end in Kenya with 47 entrepreneurs and 48 mentors; more information is available here. This cohort of the programme saw very positive results with 77 percent of the participants completing the programme.

PROJECT-LEVEL HIGHLIGHTS AND PROGRESS IN 2022

Cameroon

The TRI Cameroon project established 12 nurseries, with over 211 628 bamboo and non-timber forest product plants produced. An additional 106 586 seedlings were produced for planting in three project landscapes, along with a total of 146 684 hectares (ha) of degraded land being effectively under restoration. An additional 142 local stakeholders were trained on FLR practices, and project partners were engaged in assessment reports and preparation of government policy documents.

Adopted policies to support FLR
4 policies and regulatory frameworks adopted

Area of land under restoration
4 110 ha

Area of land under improved management
2 602 ha

Value of resources for FLR
USD 106 million

TRI knowledge products produced
7

Central African Republic

The TRI Central African Republic (CAR) project continued to expand demonstration sites and first baseline studies, including with active participation from local communities. The development of a simple management plan for a forest area is a new opportunity that the CAR project is implementing to enhance the knowledge and adoption of management practices. Project support directly benefited 6 000 people.

Adopted policies to support FLR
6

Area of land under restoration
112 ha

Area of land under improved management
0 ha

Value of resources for FLR
USD 7 million

TRI knowledge products produced
1

China

The TRI China project supported 16 pilot state-owned forest farms to develop FLR-based innovative forest land restoration plans, which focused on improving key ecosystem services and delivering socio-ecological benefits to locals. The number of individuals engaged in relevant national and subnational capacity-building events was 425, whereas more than 1 700 forest rangers and other stakeholders from across China participated in capacity-building events both in and outside the project pilot areas. The number of direct beneficiaries was about 52 000, with over 260 000 people impacted by the project.

Adopted policies to support FLR
3

Area of land under restoration
229 831 ha

Area of land under improved management
45 586 ha

Value of resources for FLR
USD 42 million

TRI knowledge products produced
> 20

Democratic Republic of the Congo

The TRI Democratic Republic of the Congo project selected 40 microprojects promoting FLR to be funded to improve household income in target communities, with the selection process of another 30 microprojects now underway. Training was provided to 150 associations on good practices in project formulation and planning, and five tree nurseries were established to produce different species of trees for a 500 ha restoration area.

Adopted policies to support FLR
5

Area of land under restoration
369 ha

Area of land under improved management
400 ha

Value of resources for FLR
USD 6 million

TRI knowledge products produced
4

Guinea-Bissau

The TRI Guinea-Bissau project established the national mangrove platform, building upon the dynamics of mangrove and rice field restoration achieving satisfactory and encouraging results. With the distribution of 27.4 tonnes of improved rice seeds adapted to climate change to the communities of the sites concerned by the project, this showcased how social responses to ecological and productive crises in the project sites are being implemented.

Adopted policies to support FLR
1

Area of land under restoration
1 741 ha

Area of land under improved management
678 ha

Value of resources for FLR
USD 372 000

TRI knowledge products produced
3

Kenya arid and semi-arid lands

The TRI Kenya arid and semi-arid lands project measured 152 661 ha of areas that directly contribute to biodiversity conservation and sustainable land use. The project trained 831 community members through exchange visits on microcatchment technology, and, overall, the project directly benefited 21 259 people through various project activities.

Adopted policies to support FLR
6

Area of land under restoration
194 908 ha

Area of land under improved management
43 670 ha

Value of resources for FLR
USD 64 million

TRI knowledge products produced
15

Kenya Tana delta

The TRI Kenya Tana River delta project established 116 887 ha of ongoing measuring techniques to strengthen governance mechanisms for sustainable land management. A total of 5 291 people directly benefited from capacity building and training, including initiatives in support of livelihoods. The project focused on increasing private, public and local investment in large-scale landscape restoration, including preparation of 48 communication pieces.

Adopted policies to support FLR
8

Area of land under restoration
480 ha

Area of land under improved management
130 000 ha (potential)

Value of resources for FLR
USD 25 million

TRI knowledge products produced
14

Pakistan

The TRI Pakistan project completed four Restoration Opportunity Assessment Methodology (ROAM) assessments, which was helpful to identify the vulnerable and degraded sites for assisted natural regeneration. Project partners conducted training for 44 professionals and key stakeholders from all project districts. To contribute to alternative livelihood generation for local residents, the project is now installing 12 cumulative processing units, which will benefit a total of 2 700 individuals.

Adopted policies to support FLR
4*

Area of land under restoration
34 000 ha

Area of land under improved management
400 ha

Value of resources for FLR
USD 24 million

TRI knowledge products produced
11

*National policies reviewed to support and link these with FLR.

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Sao Tome and Principe

The TRI Sao Tome and Principe project operationalized one permanent Platform for Forest and Landscape Restoration, which was established by ministerial decree. Four FLR landscape plans were finalized, covering a surface of approximately 38 000 ha. A total of 1 363 beneficiaries were involved in the planning and implementation of the FLR work in the four target landscapes.

Adopted policies to support FLR
1

Area of land under restoration
12 000 ha

Area of land under improved management
23 700 ha (potential)

Value of resources for FLR
USD 50 000

TRI knowledge products produced
4

United Republic of Tanzania

The TRI United Republic of Tanzania project began vital restoration work across the Great Ruaha and Lake Rukwa landscapes in 2022, including a total of more than 2 500 people benefiting from the investment. Mini-ROAM assessments were undertaken in 11 districts, with the full ROAM assessment undertaken in seven districts.

Adopted policies to support FLR
2

Area of land under restoration
10 000 ha

Area of land under improved management
0 ha

Value of resources for FLR
USD 50 000

TRI knowledge products produced
5

NEW STRIDES FOR COLLABORATION AND SYNERGIES FOR THE TRI COMMUNITY

TRI programme implementers and project teams gathered for the first in-person summit since 2019, focused on adaptive management and finance.

The COVID-19 pandemic created a set of unique challenges and opportunities for global organizations – such as TRI programme implementers, IUCN, FAO and UNEP – which had to switch to virtual and remote workplaces, and for the larger TRI community who were unable to meet in person at annual global learning workshops. While the virtual meetings and webinars held in 2020 and 2021 were successful in keeping country teams connected and planning for a successful upcoming year, for the first time in two years, the 2022 workshop hosted in person in Kenya was a welcome change. By gathering colleagues from eight countries,[iii] including implementing partners, this workshop not only provided a way to rekindle a sense of community, but also to identify collaboration opportunities and to plot the way forward, especially as related to adaptive management and finance.

In preparation for the event, countries were surveyed on their priorities for the in-person workshop. Teams expressed interest in more exchanges among countries to improve cross-learning on topics of shared concern, including seedling selection, mangrove restoration and policy strategies. As such, the workshop was structured in a responsive manner, where partnership building, open discussions, networking and general enabling spaces were created and prioritized.

"TRI is an outstanding programme that brings together different perspectives, which is our greatest strength. ... [We must] keep working together to fight the immense land degradation problems we have ahead," said Florian Reinhard, Programme Officer, Monitoring and Evaluation, IUCN.

ADAPTIVE MANAGEMENT

Adaptive management has played an important role in TRI programmatic objectives and success. Adaptive management describes the structured and iterative process of decision-making due to any level of uncertainty, ultimately with the goal of reducing future uncertainty. This approach includes monitoring of programmatic objectives and thereby allows for the "capacity to adapt restoration plans to emerging changes in stakeholders, ecosystem dynamics or intended results."[2]

With an overall theme of and focus on adaptive management, this workshop provided space to identify each country's major contributions to the broader TRI community.

[iii] There are currently nine countries actively engaged (Cameroon, Central African Republic, China, Democratic Republic of the Congo, Guinea-Bissau, Kenya, Pakistan, Sao Tome and Principe, and the United Republic of Tanzania). However, colleagues from China were not able to travel. Project engagements in Myanmar were suspended in 2021 due to the political situation.

> *"TRI is an outstanding programme that brings together different perspectives, which is our greatest strength. … [We must] keep working together to fight the immense land degradation problems we have ahead."*
>
> Florian Reinhard, Programme Officer, Monitoring and Evaluation, IUCN

Such discussions from country partners were valuable for all participants and project colleagues, a few of which are highlighted below:

- In Cameroon, difficulties developing bankable projects arose due to lack of interest from private enterprises. This was addressed by initiating negotiations with the government to develop a project for grant support, which will capitalize on TRI achievements.
- The Guinea-Bissau project tapped into its nationally relevant expertise and partnered with two new villages to restore mangroves in their abandoned rice fields, after the original villages were no longer able to participate.
- In Pakistan, a forest management and utilization plan was prepared, which is fundamentally more adaptive than the regular forest and landscape restoration (FLR) management plan.
- Across all projects, the COVID-19 pandemic and related issues prevented several international consultations and travel, which was a crucial component of adaptive management discussions.

Adaptive management is critical in any initiative, as has continually been highlighted by several project partners. Such discussions during this workshop led to the creation of action plans to bring the in-person, lively discussions into reality, following the workshop conclusion. Framing this workshop as contributory, particularly as related to adaptive management, allowed for the entire cohort of participants to learn from one another and thereby easily share and grow their combined knowledge.

SYNERGIES

A central part of this workshop was focused on the identification of synergies and how to best achieve them in the context of the programme. One of the key added values of TRI lies in the

Global TRI partners gather for an in-person workshop in Kenya.
© IUCN

integrated approach of the programme and the collaboration opportunities it offers by bringing together expertise in policy design, institutional capacity building and best practices, private sector engagement and finance mobilization. These approaches are coordinated across the programme's nine countries while acknowledging the different countries' unique sets of characteristics. Such collaboration between complementary programmes accentuates programmatic impact by working across the aforementioned sectors, in a coordinated way, rather than through individual or disconnected projects. Achieving such synergy requires colleagues across and between project teams to actively seek opportunities to work together, especially at country level.

For instance, if the policy team of one country succeeds in improving the enabling regulatory environment for FLR interventions, it is critical that this is shared as an FLR best practice. The same goes for a country team who has successfully secured financial resources to ensure rapid uptake and upscale of such policy. During this workshop, countries discussed the best ways of leveraging opportunities for cross-country and programmatic learning, which in turn will help other country teams to properly harness these learnings. Doing a mapping exercise of the synergies between the three global support components and aligning the groups targeted by each project were ways to enable the creation of a co-design space, where collaborative solutions were identified.

Colleagues from the TRI project in the United Republic of Tanzania sharing progress updates. © IUCN

Countries established six priorities for collaboration: 1) policy support and enabling environment, 2) FLR technical support, 3) assisted natural regeneration, 4) communications, 5) monitoring, and 6) resource mobilization. A few examples of the many activities planned under these collaborative priorities include increasing seed and plant material diversity, improving policy engagement at several levels, hosting webinars and training workshops to facilitate knowledge sharing, exploring the use of protocols, elaborating on research effectiveness to show how projects are bankable, and overall creating collaborative work streams among specific child projects. Overall, these collaborative priorities all relate to the collection of best FLR practices and sharing through the United Nations Decade on Ecosystem Restoration.

TRI partners collaborating during an interactive workshop session. © IUCN

"The TRI programme offers many opportunities for duplication and upscaling which can be of inspiration to other important global initiatives, such as the United Nations Decade on Ecosystem Restoration."

Jonathan Gheyssens, Technical Lead, Finance Mobilization, UNEP

"The TRI programme offers many opportunities for duplication and upscaling which can be of inspiration to other important global initiatives, such as the United Nations Decade on Ecosystem Restoration," said Jonathan Gheyssens, Technical Lead, Finance Mobilization, UNEP.

Collaboration and partnerships were discussed at length, conducted through small breakout groups, creating a space for project partners to share ideas, successes and failures, to learn and – simultaneously – share their own learning. This collaborative environment encourages and begins the kindling of future partnerships across the restoration community.

Sharing tangible components of TRI success through site visits.
© Eva Teekens

There is no better space to share progress than a global workshop among colleagues and partners. The focus on adaptive management was paired well with a showcase of the progress already completed, including finance tools and concrete examples of how to work with entrepreneurs for restoration endeavours.

THE RESTORATION FACTORY

Restoration is an approach that is fundamentally unique and applicable to a broad array of ecosystem types, in varying states and with a diverse set of stakeholder involvements. This was emphasized in the second part of the workshop, where attendees engaged with the Kenyan cohort of the TRI Restoration business incubation programme, the Restoration Factory. TRI participants visited one of the eco-entrepreneurs (ecopreneurs) to hear the challenges of building a restorative business, namely access to financing and markets. The next day, attendees participated in the pitch session when mentees of the factory programme presented their various sustainable enterprises.

The "Pitch Parade" presentations formed part of the 6-month Restoration Factory incubation programme where the ecopreneurs worked through a step-by-step, mentor-guided process to develop their landscape restoration-focused business models. Sixteen ecopreneurs presented their pitches in this session. A wide variety of restoration approaches and enterprises was showcased, reflecting the diversity of restoration projects. TRI participants were highly engaged and networked with the ecopreneurs of the factory programme to share useful insights and offer connections where possible. Through feedback forms, TRI participants provided feedback and their contacts to several of the mentees to help

TRI partners gather in a tree nursery during a site visit. © Eva Teekens

these ecopreneurs continue to build successful restoration businesses that provide positive impacts for the environment and their local communities.

"Very informative ... [to hear] how restoration can be a livelihood enhancement system. Financing of restorative approaches and businesses is key to achieving restoration engagements," commented Elijah Mboko, Project Technical Assistant, FAO.

"The actions of entrepreneurs are necessary and deserve to be initiated for and in other TRI countries," said Nzale Sumaili, Project Coordinator, South Kivu, Ministry of Environment and Sustainable Development.

CONCLUSION

As evidenced thus far, the TRI programme has enabled successful restoration outcomes in several countries, and all are looking forward to what is next. As such, this workshop included consultations related to a no-cost extension for the programme, during which three areas were prioritized.

1. Sharing best practices was emphasized throughout the workshop, by multiple countries in different sessions. This is a seamless fit with the priority workstream of cross-country exchange and the communication strategy.
2. The country child projects expressed interest in continued technical support from the lead agencies. In providing details, country representatives communicated a desire to see continued support on communication strategies, cross-country exchanges and accessing finance for restoration.
3. Given that various child projects have requested various extensions of their specific projects, country representatives emphasized the need for the global child project to bolster technical support and knowledge exchange. Such extensions range from ending in mid-2024 to extending until 2025 and 2026, which bodes well for the future of the TRI family of programmatic engagement.

"Very informative ... [to hear] how restoration can be a livelihood enhancement system. Financing of restorative approaches and businesses is key to achieving restoration engagements."

Elijah Mboko, Project Technical Assistant, FAO

> *"We must see TRI as more than the sum of the different child projects and should thus put all of our resources together to create synergies and enhance collaborations between all the TRI countries."*
>
> Adriana Vidal, TRI Project Manager and Climate Change Senior Policy Adviser, IUCN

While remote meetings and workshops certainly have their place – especially when considering the carbon footprint of transportation needed for a global meeting, heightened inclusivity and accessibility available for virtual options, and many other key considerations – the TRI workshop held in November 2022 in Kenya proved to be particularly successful because of the collaborative and networking components. In reflecting upon successes and lessons learned, all participants – and those engaged in the broader TRI community – were able to look ahead to a bright restored future. This workshop provided a concrete opportunity to learn from different realities, contexts and progress on restoration across the TRI community.

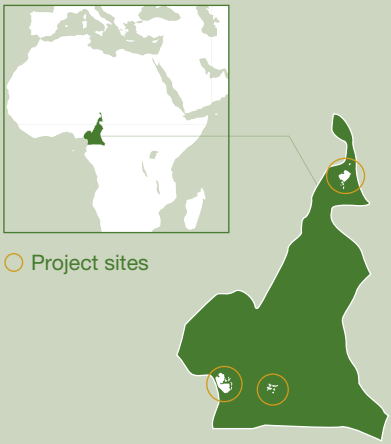
"We must see TRI as more than the sum of the different child projects and should thus put all of our resources together to create synergies and enhance collaborations between all the TRI countries," said Adriana Vidal, TRI Project Manager and Climate Change Senior Policy Adviser, IUCN.

TRI partners assemble after a site visit.
© IUCN

TRI ACHIEVEMENTS IN 2022

CAMEROON

Project updates and achievements



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- A Harmonized Action Plan (2020–2030) for the Restoration of Degraded Land and Forest Landscapes in Cameroon has been developed.
- A decision (legal instrument) that provides guidelines on the establishment, management, use and trade of non-timber forest product (NTFP) plantations has been developed.
- An Agroforestry Notebook has been produced to be used by the government for the registration of NTFP plantations to promote private ownership.
- A manual for the introduction of bamboo in agroforestry systems has been drafted, along with a manual for NTFP agroforestry.
- Six knowledge products have been produced and published as a working paper from the International Bamboo and Rattan Organization (INBAR).
- Seven communication products have been produced, including a video documentary produced by Cameroon National Television.
- Three local forest and landscape restoration (FLR) committees have been established to coordinate FLR activities at protectorate level.
- Support was provided to 1 639 people (1 158 male, 481 female) under the project (including through training, plantation establishment, value chain development, and material and financial support).
- A total of 296 666 bamboo and NTFP seedlings have been produced, and 4 110 hectares (ha) of degraded land have been restored.

Distribution of seedlings to farmers. © Fogoh John Muafor

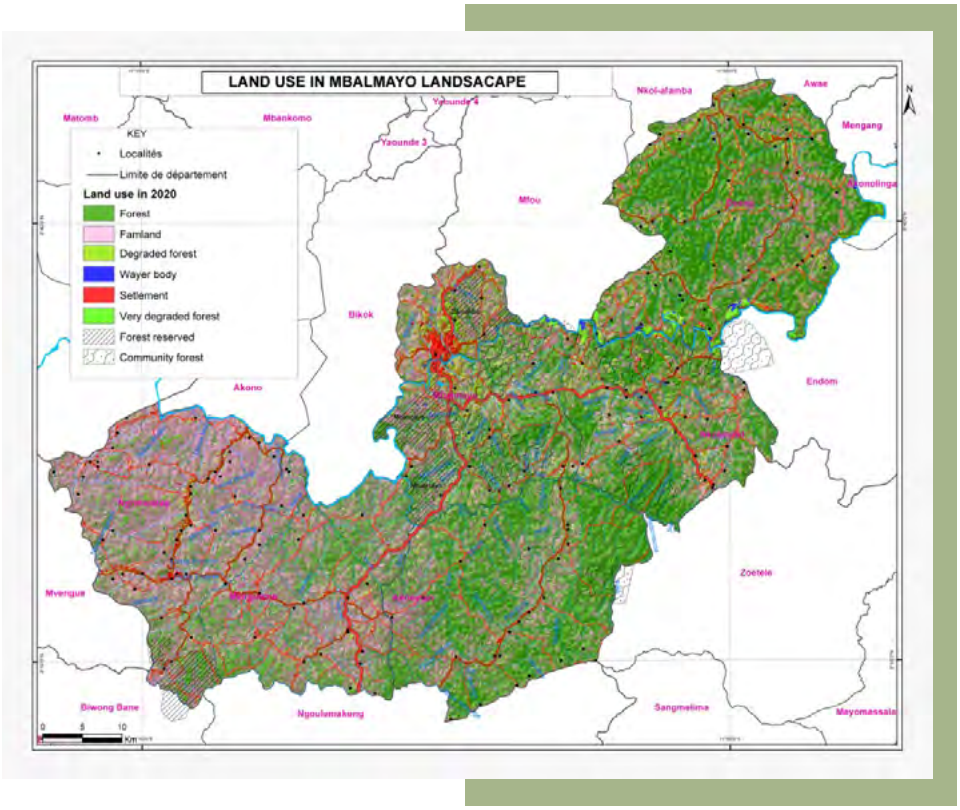
A new era for non-timber forest products in the Mbalmayo landscape

This approach has galvanized farmers who previously had no notion or interest in NTFP and bamboo cultivation. Currently, at least 1 600 people living in rural areas in this landscape are involved in the establishment of NTFP plantations through the project.

Mbalmayo is the capital of the Nyong-et-So'o Division and a council of the Central Region of Cameroon. Due to its position at a crossroads, Mbalmayo is the main gateway to the Southern Region of Cameroon and neighbouring countries, such as Gabon and Equatorial Guinea. Over the years, excessive logging has led to an increase in forest and landscape degradation and a gradual loss of ecosystem functionality. As a result, the local population, whose main income activity is agriculture, is facing poverty.

The TRI project, through an inclusive approach, supports the aspirations of communities living in Mbalmayo by contributing to livelihood improvement through the restoration of degraded landscapes. This is achieved through the restoration and establishment of NTFP and bamboo plantations. Four species of NTFPs and five species of bamboo are being promoted.

With the support of local project partners, notably the National Forestry School (ENEF) and the non-governmental organization (NGO) Forest and Rural Development (FODER), restoration activities implemented in this landscape have already produced 100 183 NTFP and bamboo seedlings, which have been distributed to farmers over the 3 years of the project. This has enabled men, women and youth living in several localities of this landscape to establish NTFP and bamboo plantations. To ensure private ownership of these, the project also worked with the Ministry of Forests and Wildlife (MINFOF) to develop an Agroforestry Notebook, which was approved in February 2020. This tool has provided benefits to more than 20 farmers who have been able to register their plots with the local forestry administration as private properties and legally harvest various tree products.



Land cover map of Mbalmayo landscape. © IUCN

"I am a young woman, I live in the village, I have two children and thanks to the TRI project, I will no longer live in poverty."

Cécile Mviena, a member of the Groupement d'Initiative Communautaires d'Akomnyada (GIC AKOM) cooperative

Similarly, a decision has been made to guide and ensure sustainable and profitable utilization of the plantations. This approach has galvanized farmers who previously had no notion or interest in NTFP and bamboo cultivation. Currently, at least 1 600 people living in rural areas in this landscape are involved in the establishment of NTFP plantations through the project. Such plantations vary across localities, with some being individual plantations while others are owned by cooperatives. Gradually, this enthusiasm is also attracting private investors.

According to Cécile Mviena, a member of the Groupement d'Initiative Communautaires d'Akomnyada (GIC AKOM) cooperative, the arrival of the TRI project is an opportunity for the local people to improve their living conditions. She said: "I am a young woman, I live in the village, I have two children and thanks to the TRI project, I will no longer live in poverty."

This hope is mainly due to the approach implemented, which focuses on restoring degraded areas, such as existing farmlands, through the promotion of agroforestry techniques.

The NTFP plants promoted in the field are mostly selected species, which are more productive and have a longer life cycle. These varieties – including those that produce twice a year or in the off-season – were chosen because they will allow the farmers to better benefit from this project and generate complementary income to improve their living conditions.

The seedlings produced under the project are distributed to farmers. These farmers, who were previously trained on agroforestry techniques, integrate the plants received into their cocoa, maize, cocoyam and other food crops. According to Reymond Ndang, one of

Seedling planting among the community. © Fogoh John Muafor

the beneficiaries of the project, the agroforestry approach promoted enhances soil fertility, thus allowing for an increase in productivity not only of cocoa but also of NTFPs, which are sold in non-cocoa seasons. He said: “This is the first time that our village has benefited from such a pragmatic project that trains us, gives us the plants, assists us in planting and puts technicians at our disposal to monitor our plantations.”

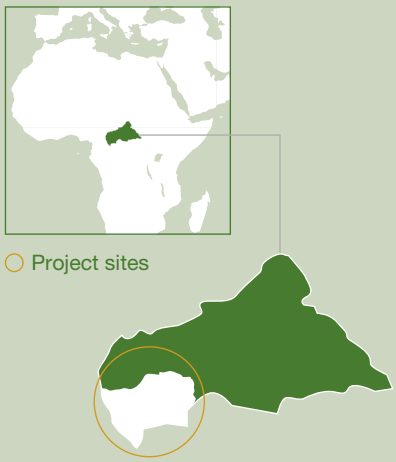
In 2023, the project will continue to strengthen and make farmers more resilient to climate change in this landscape, through the establishment of 200 ha more of bamboo and NTFP plantations. At least 300 farmers will be supported to establish new plantations, and those already engaged will be provided with financial incentives for the management of already existing ones. Machinery will also be provided to enhance value chain development of planted NTFPs and bamboo. In 2023, the project envisages providing machines to private entities for processing of bamboo leaves into bamboo tea in the Mbalmayo landscape, as well as the processing of neem seeds into neem oil in the Waza landscape.

Distribution of seedlings to farmers.
© Fogoh John Muafor

CENTRAL AFRICAN REPUBLIC

Project updates and achievements

- National and subnational policy and regulatory frameworks are increasingly supportive of restoration and sustainable land management (SLM), thanks to the updated forest code, and this is expected to foster reforestation initiatives in the field.
- The national policy and regulatory frameworks are also increasingly supportive of the provision of ecosystem services and the development of a Wood Energy Resource Management Master Plan for the Bangui/ Bimbo catchment area.
- The restoration of native ecosystems through assisted natural regeneration is underway as part of a process to establish community forests in Guitto Forest.



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Plant reforestation in Bombé. © FAO/Seigneur Yves Wilikoesse

Capacity building and support for the community forest allocation process in the Central African Republic: contributions to the Bonn Challenge with local communities of Pissa and Berberati

The project continued to expand demonstration sites and first baseline studies, including with active participation of local communities. The development of a simple management plan for a forest area is a new opportunity to enhance the knowledge and adoption of management practices.

The TRI project in the Central African Republic (CAR) is focused on the five subprefectures in the southwest of the country, which is mainly forest area, including the prefecture of Lobaye and the commune of Pissa. In May 2020, the Boyama community asked FAO to support it through the process of establishing a community forest. The TRI project responded favourably to the request and has since begun supporting the people of Boyama in identifying and achieving a consensus among different stakeholders around establishing community forests in the Nguitto Forest (1 000 ha available). The project has also supported the development of a simple forest management plan with two major sections, including capacity building and support in putting together and submitting an application for the allocation of community forests. To this end, in August 2022, two training sessions on the process of identifying and allocating community forests were organized for 60 participants from the six villages in Pissa and Berberati, situated between Carnot and Nola. The training sessions focused on 12 modules, including:

- the definition of community forestry and related concepts;
- community forestry and Indigenous Peoples;
- the legislative framework for community forests;
- participatory development of the simple community forest management plan;
- allocation procedures, from informing communities to the official consultation meeting, community forest management standards, and monitoring;
- roles and responsibilities of stakeholders in supporting communities;
- lessons learned from the Cameroonian experience;
- gender and community forest management; and
- roles and responsibilities of stakeholders in support of local Indigenous Peoples.

To ensure sustainability, the process focused on raising awareness of the integration of several aspects related to natural resources in the process of allocating community forests, including identification, prevention and management of conflicts.

Trainees from Berberati session in August 2022. © FAO/Seigneur Yves Wilikoesse

"The training helped us better understand our role as a 'local community' in the community forest allocation process. The tools acquired during this training allowed us to make a valuable contribution to the development of the simple management plan for the Guitto Forest."

Basile Ndeya, Chief of Bombé village

The second training session in September 2022 supported the communities of Boyama in the development of their simple management plan, along with the drafting and submission of an application for the allocation of community forests to the subprefecture of M'Baïki in the prefecture of Lobaye, under the Forest Ministry Regional Directorate Number 1.

Basile Ndeya, the chief of Bombé village, shared: "The training helped us better understand our role as a 'local community' in the community forest allocation process. The tools acquired during this training allowed us to make a valuable contribution to the development of the simple management plan for the Guitto Forest."

Albert Ndouba agreed, stating: "Before, I had no knowledge of our place and rights as Indigenous Peoples to the allocation of community forests. Thanks to this training, as a member of the Indigenous committee of the Guitto Community Forest, I feel empowered to sustainably manage and use forest resources."

Séraphin Wogasso, Chief of Bongombé village in the commune of Pissa, said: "It is with great joy that my community members and I welcome this TRI project and all the initiatives that go with it. Complementary initiatives such as income-generating activities will help us address the degradation of our forest resources, which for us are our only means of survival."

At the international level, International Labour Organization Convention 169 recognizes the right of Indigenous Peoples to self-determination within a nation state. Convention 169 is an instrument dedicated to improving the living conditions of Indigenous Peoples worldwide. The Central African Republic is the first African country to ratify the current convention, which the TRI project in CAR aligns with and prioritizes. As such, the principle of free, prior and informed consent (FPIC) is highlighted and integrated in project implementation activities in the field. Indigenous Peoples are present in Pissa and mostly in Bayanga, where they have been engaged in project formulation and ongoing activities in the field to restore and establish community forests in the Guitto Forest.

Review of cartography within the Pissa community.
© FAO/Seigneur Yves Wilikoesse

In terms of access to forest resources, Indigenous Peoples in the southwest of the country and Pissa in particular, are faced with three significant challenges:

- the overlapping of Indigenous Peoples' territories and forest concessions, which limits their access to land and forest resources;

- a lack of community monitoring capacity for the sustainable management of natural resources; and

- the limitations (imposed by legal texts) on the protection of Indigenous Peoples in terms of access to land and forest resources.
  By addressing the challenges faced by local communities, community forests contribute to improving local livelihoods, securing customary rights and enhancing the sustainable management of resources.

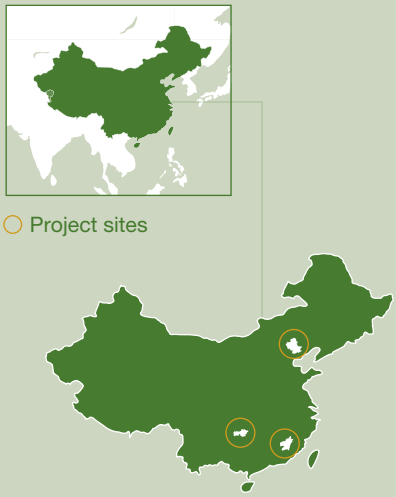
Aware of the challenges mentioned above, the TRI project aims to act at the operational level, starting with training and guiding populations in the process of community forest allocation. The project also acts strategically at the legislative level by building the enabling regulatory environment needed to promote community forests and the restoration of forests and landscapes. The annual budgeted workplan foresees efforts to support the revision of the forest code, as the next step towards this goal.

These efforts constitute an essential contribution to achieving the Bonn Challenge, a commitment signed by CAR. Such work will continue, both on an operational and strategic level. Looking ahead to 2023, the TRI project in CAR will develop a training guide for communities on the process of community forest allocation, streamline management activities, clarify staffing requirements and collaborate with TRI projects across other countries and landscapes to glean lessons learned – all of which will continue to lead the project to success in CAR. Emphasizing the importance of each action leads TRI project partners, community members and the larger restoration community to better outcomes with CAR – including related community forest actions and legislative framework updates – and beyond.

CHINA

Project updates and achievements

- Forest land restoration plans (FLRPs) have been approved by the National Forestry and Grassland Administration (NFGA) and officially issued to three pilot areas (one city and two counties).
- A press conference was held on 18 August, 2022, on the Chinese version of *A guide to the Restoration Opportunity Assessment Methodology*.
- A webinar on "Typical Technologies and Best Practices for Sustainable Forest Management" was held as part of the project "Sustainable Forest Management in China to Improve Capacity of Forests to Respond to Climate Change". The webinar was aimed at local forestry workers from the project, with a total of more than 150 participants.



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Experts conducting forest land restoration plan research in Fengning. © Song Zengming,TRI China PMO

Forest land restoration plans officially released: a milestone for forest and landscape restoration mainstreaming in China

The natural resources of China are managed by various individual departments, each implementing their own mandates. Therefore, the measures taken by each department interact, and sometimes conflict, with those implemented by another.

Matter and energy flow and pass from one component of a landscape to another, influencing and constraining each other, while forming together an indivisible ecosystem. Forests are one of the most important elements in the landscape, and forest degradation leads to significant impacts on the structure and functionality of the ecosystem. This, in turn, brings about complex economic and social challenges, which require multistakeholder efforts to create specific, sustainable forest restoration actions.

Following 3 years of continued effort, the TRI China project has developed three FLRPs for pilot areas at the city or county level, aiming to explore and implement a localized, practical and FLR-based restoration methodology to ultimately expand to additional cities and counties. The FLRPs cover a period of 10 years, in 2021–2030. In April 2022, the FLRPs were approved by the NFGA to be implemented in the three pilot areas, which represents an important milestone in the mainstreaming of FLR in China.

Why forest land restoration plans?

Huang Zhilin, the FLRP expert of the TRI China project, explains: “China is a country with vast land and abundant resources. Different regions have different resource allocations, ecological problems, management models and socioeconomic needs. One solution cannot be applied to all places. So, we chose three very different areas as pilots for testing a set of work methods to be replicated in more regions.”

- Bijie is in the Guangxi-Guizhou karst area, part of the national karst rocky ecological area where desertification prevention and control is carried out. The karst terrain is steep and vulnerable to soil erosion and rocky desertification.
- Fengning is an ecologically vulnerable area of interlaced agriculture and animal husbandry located between the North China Mountains and the Inner Mongolia Plateau. Being prone to drought and soil depletion, some pilot areas of the project were affected by nomadic overgrazing.
- Xinfeng is in the source area of the Ganjiang and Dongjiang Rivers and is an important functional area for water conservation and purification. With a monsoon-influenced humid subtropical climate, the Hunan-Jiangxi hilly agroecological area is also a key area for biodiversity conservation in China and is an integral part of the southern hilly and mountainous ecological barrier.

Experts discussing water resource protection during forest land restoration plan investigations in Xinfeng. © Niu Jiayi, TRI China PMO

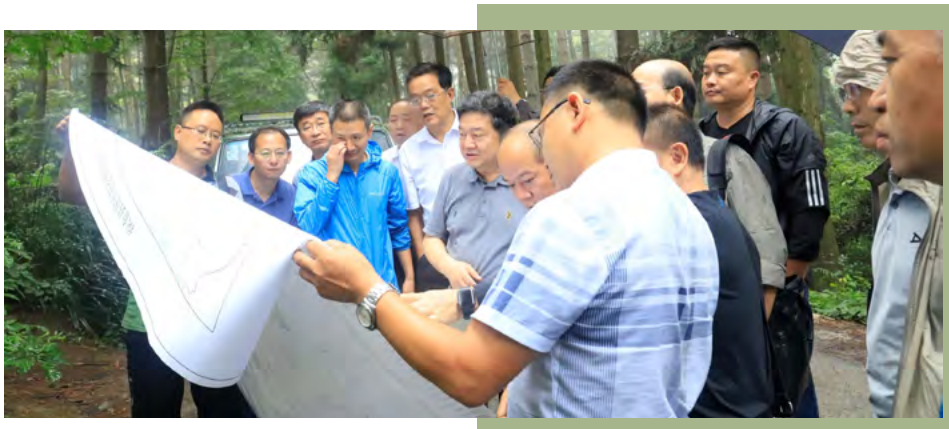
"The project opened my perspective and brought many new ideas. In the past, we mainly focused on our own forestry work and paid little attention to what others were doing. Through the project platform, we not only learned new knowledge and technologies, got the opportunity to have in-depth communications with other stakeholders, but also found great potential for cooperation."

Luo Qin, representative of the Jiangxi Forestry Department

Localization strategy for forest and landscape restoration

Despite careful planning, difficulties arose as soon as the FLRPs were launched. During the research stage, the project team found that it was challenging for local communities to understand FLR, especially given the westernized definition, standard and logic. So, the project team reflected on whether it was possible to combine FLR with local Chinese concepts. After visiting the NFGA, IUCN, the Academy of Forestry, the Chinese Academy of Sciences and other willing institutions, and communicating with many experts in various fields, the project team finally found the solution: "Systemic Governance of Mountains, Rivers, Forests, Farmlands, Lakes and Grasslands" (MRFFLG).

The natural resources of China are managed by various individual departments, each implementing their own mandates. Therefore, the measures taken by each department interact, and sometimes conflict, with those implemented by another. In the 2010s, China proposed the MRFFLG theory, emphasizing that mountains, rivers and forests, along with farmlands, lakes, grasslands and deserts are all indivisible parts in the wider ecosystem. As such, protecting the ecosystem requires an approach that mirrors intrinsic ecosystem dynamics, and which can balance all nature's elements. The concept of MRFFLG is similar to FLR and has been widely understood in China, proving that combining both has greatly supported the localization of FLR and led to the exploration of FLR as a practice with Chinese characteristics. This, in sum, has enhanced the subsequent mainstreaming of FLR in China.



Forest land restoration plan investigation in Bijie, which experts are discussing based on map cartography.
© Lishulei, TRI China PMO

Multiple stakeholders participate in decision-making

To achieve the overall restoration of multiple landscape elements, relevant stakeholders must participate in decision-making, which is one of the most important FLR principles. Given that it is challenging to organize diverse stakeholders to complete such complex work, the Restoration Opportunities Assessment Methodology (ROAM) guide, written by IUCN and the World Resources Institute,[3] takes users through a process to identify and analyse FLR potential, including how to most efficiently promote stakeholder action. This book was introduced, officially translated and published in China by the TRI China project, which resulted in ROAM being used in the country for the first time, as the largest application in the world.

Li Jia, the project's ROAM expert said: "Every stakeholder has different needs, difficulties and working methods, so communication is necessary, and it is best to organize their participation from beginning to end. It's very hard because everyone is busy with their own work, but we still try our best to organize at least two trainings and three seminars for each area, and the result is satisfying."

Luo Qin, representative of the Jiangxi Forestry Department shared: "The project opened my perspective and brought many new ideas. In the past, we mainly focused on our own forestry work and paid little attention to what others were doing. Through the project platform, we not only learned new knowledge and technologies, got the opportunity to have in-depth communications with other stakeholders, but also found great potential for cooperation."

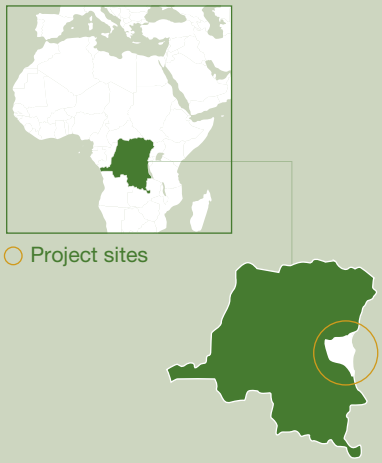
Conclusion

The FLRPs were officially completed and reviewed by the NFGA in November 2021 and were officially issued to the three areas in April 2022. The project team will continually support the local application of the FLRPs while also helping experts to complete further work to summarize and compile the successful practice of FLR in China. To showcase and summarize the project's success, the experiences will be consolidated in a book. With a tentative title of "Practices from middle- and small-scale forest land restoration plans in China," the book is planned to be published in 2023.

Huang Zhilin said: "Forest and land restoration is still a new concept in China, and it is not enough to practice only in three areas. Although the duration of the project is limited, the experience can play a long-term role. We have summarized the process, technical methods and precautions in this book, hoping to provide support for more areas."

Local stakeholders discussing and identifying forest and landscape restoration opportunities based on topography, during a forest land restoration plan workshop.
© NIU Jiayi, TRI China PMO

DEMOCRATIC REPUBLIC OF THE CONGO



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Project updates and achievements

- A provincial FLR strategy describing the key priorities and policies has been developed, and its integration into the local development plans is underway. In addition, a Best Agricultural Practice Guide to promote FLR is in production.
- Support has been provided to the Provincial Coordination of the Environment for the implementation of an integrated bushfire control system (prevention through awareness raising, early detection and early fire-control measures).
- Four restoration options have been implemented as appropriate to the project area for a total of 1 170 ha, including assisted natural regeneration (573 ha), reforestation (423 ha), agroforestry (135 ha) and erosion control (39 ha).
- A comic book on FLR has been produced, and two videos on FLR have been translated into local languages to raise awareness of the project activities among local communities.
- Home gardens for 400 Indigenous Pygmies and their dependents have been established to reduce pressure on the Kahuzi-Biega National Park (KBNP).

Determining the right angles of the CEP learning plot. © FAO/Floribert Mbolela

The FAO resilience fund approach to sustainable ecosystem restoration

The caisse de résilience *approach revolves around farming and pastoralist communities – both men and women – connecting and integrating productive, financial and social activities, which involve technical services provided and carried out by NGOs, as well as rural community members.*

Deforestation and land degradation contribute to reduced forest cover, expended natural resources and the increased effects of climate change. Such effects include irregular seasons, excess heat, rainfall deficits, lower agricultural yields, increased greenhouse gas emissions, loss of biodiversity and food insecurity. The TRI project partners in the Democratic Republic of the Congo (DRC) are working together to help address the environmental, economic and social challenges affecting natural resource management.

The TRI project in DRC supports the Ministry of Environment and Sustainable Development, to implement the country's Bonn Challenge pledge – a commitment to restore 8 million ha by 2030 – and in so doing, to reinforce the governance of the environmental sector, including water, forests and biodiversity. The Democratic Republic of the Congo is also part of the regional restoration initiative AFR100. Concretely, the TRI project contributes to achieving these restoration pledges through the restoration and sustainable management of at least 4 800 ha of degraded forests and landscapes in the province of South Kivu.

The *caisse de résilience* approach revolves around farming and pastoralist communities – both men and women – connecting and integrating productive, financial and social activities, which involve technical services provided and carried out by NGOs, as well as rural community members. This approach is appropriate for the sustainable restoration of forests and landscapes and includes three pillars: 1) Dimitra Clubs; 2) Farmer Field School (FFS); and 3) the Village Savings and Loan Association (VSLA).

Dimitra Clubs

The Dimitra Club pillar raises awareness and mobilizes both communities and local authorities around environmental issues and impacts, and the need to implement restoration. Dimitra Clubs contribute to reawakening community dynamics around restoration and strengthen inclusive community engagement, collective action and gender equality. The Dimitra Club pillar also helps to identify common problems and challenges, with restoration as an entry point, enables communities to analyse and discuss these to find local solutions, and encourages them to apply these solutions using their own resources.

Explanation of the planning stages of the CEP activities by Master Trainer, Jackson Ngongo.
© FAO/Floribert Mbolela

In total, 90 Dimitra Clubs have been supported by the project. The approach reached 2 760 households who took ownership of FLR best practices to establish nurseries, which resulted in the production and distribution of 30 000 seedlings of forest and agroforestry species by each Dimitra Club. Each member also received four fruit tree seedlings (including two mango and two avocado trees) for planting in their respective fields. The establishment of nurseries allowed for the production and distribution of 2.7 million seedlings of efficient species for the restoration of forest landscapes through Dimitra Clubs, as supported by two local NGOs.

The project also assisted 400 Indigenous Peoples' households living around the KBNP in the development of alternative livelihoods not based on forest resources, including the establishment of home gardens and the domestication of medicinal and other valuable plants.

Farmer Field School

The FFS pillar, otherwise known as Farmer Field and Life School pillar, is an education opportunity based on adult learning principles. It aims to build the capacity of producers on restoration opportunities and options through observation, action, experimentation and decision-making.

The FFS follows a democratic system. Planning, decisions and actions are made in teams, considering the ideas of all with the guidance of the facilitator. Such democratic processes led to the identification of three priority learning themes in 2022 through the FFS approach: a) erosion control; b) agroforestry; and c) sustainable soil fertility management.

As part of capacity building and technology transfer, 520 households were trained on erosion control techniques and climate change-resilient agriculture through the FFS linked to restoration and with the technical support of the Institut National pour l'Étude et la Recherche Agronomique or National Agricultural Study and Research Institute (INERA) and the Centre de Recherche en Science Naturelles or Research Centre in Natural Sciences (CRSN-Lwiro). This resulted in a total of 110 ha improved after the training on erosion control techniques.

Village Savings and Loan Association

The pillar for VSLA or Association villageoise d'épargne et de crédit (AVEC) comprises a group of 15 to 30 people who save funds together, provide each other loans from said savings and develop income-generating activities. The added value of this approach includes awareness raising and collaboration among households within villages, strengthening

Implementation of erosion control as a restoration option, pictured here in Mulungu, determining the slope of the land with local materials (used water bottle).
© FAO/Floribert Mbolela

social cohesion, improving the resilience of affected people, and residents combining forces to support the sustainable management of local resources. The VSLA pillar strengthens household economies and contributes to reducing the pressure on natural resources.

To strengthen the activities of the resilience fund, the TRI project, in collaboration with partner Louvain Coopération, has identified and selected a total of 70 microprojects for the promotion of FLR in 2022, ultimately to support environmentally sensitive income-generating activities. These microprojects, which are currently being financed by the TRI project, will improve the income of households in the target community.

Through this activity, sustainable livelihoods will be developed directly by local communities to increase the economic value of agricultural, pastoral and forestry ecosystems while promoting the conservation of local natural resources.

Conclusion

The implementation of the caisse de résilience approach applied to the restoration of agricultural ecosystems has improved the climate resilience of small-scale producers through the dissemination of best agroforestry practices. Small-scale agriculture plays an important role in food security and meeting basic needs. The project succeeded in integrating restoration options through technical knowledge transfer using the FFS approach, thereby enhancing the chance of sustainable, long-term outcomes.

The Dimitra Club pillar raises awareness and mobilizes both communities and local authorities around environmental issues and impacts, and the need to implement restoration.

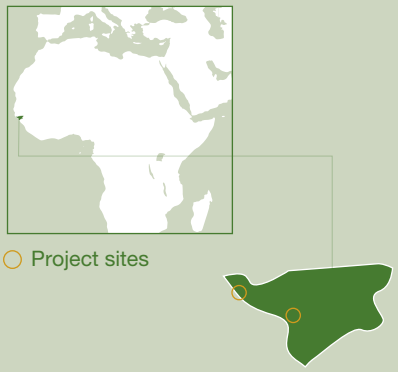
This approach has thus strengthened community engagement and empowered target households to improve their livelihoods and well-being while enhancing biodiversity conservation, climate change mitigation and SLM.

Mission to raise awareness of the forest and landscape restoration approach among community members as a pillar of the FAO resilience fund.
© FAO/Floribert Mbolela

GUINEA-BISSAU

Project updates and achievements

- After 3 years of project implementation, three project sites have been named Mangrove Champions, with 767 ha of mangroves restored, either by manual planting of 322 332 propagules and seeds, or assisted natural regeneration techniques.
- A total of 972 ha of rice fields have been rehabilitated through the supply of hydraulic equipment such as tubes of different diametres, valves, etc., as well as 48 tonnes of seeds of rice varieties adapted to the conditions of mangrove rice fields.
- The National Coordination Platform for Restoration has been established.
- Community development for women has been expanded with the establishment of fenced vegetable gardens with wells, rice threshers and hullers in sheds, improved stoves, horticultural equipment, solar salt, oyster farming and motorized canoes.



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Mangrove restoration helps protect villages from climate change. © Pierre Campredon, IBAP

Meeting the combined challenges of climate change, food security and community development: the experience of the TRI project in Guinea-Bissau

The project focused on the specific needs of women, for whom the solutions identified aimed to simultaneously relieve them of work while reducing pressure on resources.

Mangrove forests straddle land and sea, protecting communities from storm surges, providing nurseries for wildlife and natural resources, and creating important boundaries for areas. Most of the villages included in the TRI Guinea-Bissau project (known as “Arroz e Mangal” or “Rice and Mangroves”) are in the middle of such mangrove forests. As such, communities typically travel by rowboat and obtain many of their resources from the mangroves. However, in recent years, due to sea level rise and the compounding impacts of climate change, and even with mangrove presence, seawater has impacted communities by entering homes. To protect their livelihoods – especially rice fields – men are building ever higher dikes. Such dikes create short-term solutions, though, as the tubes (made from palm trunks) that drain the rice fields are no longer large enough when water levels become overwhelmingly high and rains become occasionally violent. Further, the palm trunk tubes are not watertight enough when the rain falls and the water has to be kept in the rice fields. These farmers are on the front lines in a battle against climate change.

There is more to the picture though. Younger community members have opted to leave their villages in the hopes of finding employment or leisure opportunities in urban areas. However, when the work of elders and remaining community members is no longer sufficient, the inevitable consequence is the abandonment of rice fields.

Women are incredibly important in the communities; they not only take care of domestic labour and household management but are also active in resource management: transplanting seedlings in the rice fields where they travel to via dugout, harvesting or threshing grain, fetching freshwater (which can be a 5 to 6 hour dugout-row away), collecting dead wood in the mangrove forests, and tending gardens of food crops.

In such turbulent conditions, how can the restoration of the mangroves be presented to local community members as a priority? In what terms should the necessary balance be struck between long-term resilience objectives and the immediate needs of inhabitants? Considering these important pieces, the TRI project in Guinea-Bissau, from 2019 onwards, has prioritized building integrated solutions that address these different dimensions.

In rice fields abandoned because of climate change, young people are working to restore mangroves by transplanting rhyzophora propagules.
© Pierre Campredon, IBAP

"The project proposes a negotiated solution with the communities of the identified sites, to first make a participatory diagnosis of the rice fields that are being cultivated and those that have been abandoned. With these abandoned rice fields, the project proposes assisted natural regeneration, or the planting of mangroves, to be able to effectively create a belt of protection for these fields."

Rui Daniel Barbosa de Andrade, TRI Project Coordinator

In this vein, a participatory diagnosis of the local territory was developed, using aerial drone images. After the initial surprise of contemplating their space from a bird's eye view, the project team and local community members worked together to identify the rice fields of strategic importance for their security, along with those that could be converted back to mangrove ecosystems, thus bringing up the subject of mangrove restoration. A lengthy process of territorial planning and forecasting made it possible to resolve both the rehabilitation of rice fields and the restoration of mangroves. At the same time, the project focused on the specific needs of women, for whom the solutions identified aimed to simultaneously relieve them of work while reducing pressure on resources.

"The project proposes a negotiated solution with the communities of the identified sites, to first make a participatory diagnosis of the rice fields that are being cultivated and those that have been abandoned. With these abandoned rice fields, the project proposes assisted natural regeneration, or the planting of mangroves, to be able to effectively create a belt of protection for these fields," said Rui Daniel Barbosa de Andrade, TRI Project Coordinator.

Actions prioritized by and for[iv] women have resulted in a reduction of pressure on wood

Rice fields cultivated in the mangrove forests are threatened by rising sea levels. The TRI Guinea-Bissau project restores mangroves on abandoned rice fields and secures the most essential rice fields for villages. © IBAP/En Haut!

iv. Such actions have been identified as priorities by women and are implemented for women.

through the construction of improved clay stoves for cooking food, as well as the development of solar salt production, which relieves the exhausting task of collecting fuelwood and cooking salt. Oyster aquaculture experimentation and training provided interesting prospects by reducing the pressure on wild oysters. The installation of six rice huskers has also had an impact by saving women the effort of pounding rice, just as the provision of motorized dugout canoes has facilitated their travel for drinking water and access to local markets. Finally, the creation of vegetable gardens has had the effect of improving the quality of food for families while generating additional income.

Rui Daniel Barbosa de Andrade, TRI Project Coordinator, said: "The project will support the communities with income-generating activities to allow an improvement in their living conditions, but also to alleviate the working conditions, especially of women, who actively participate in rice production."

The experience confirms the value of addressing these different components in an integrated manner: the project thus responds to the challenges of climate change, food security and community development. The testimonies collected show that the TRI Guinea-Bissau project is helping to energize and strengthen the resilience of the population in a context of climate change that represents considerable challenges.

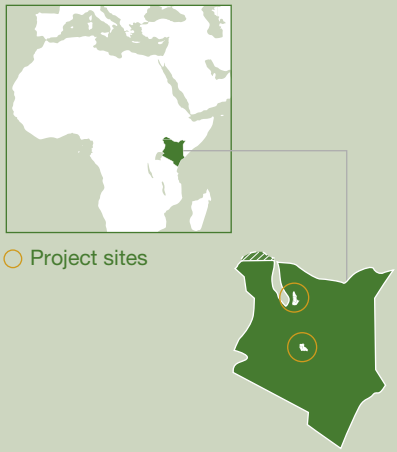
"[Women grow] eggplant, jagatu, tomato, lettuce and bell pepper ... to sell at the port. We are satisfied with the project, so that I can pay for my children to go to school," shared Sugunda Isnaba, Enxudé village.

To build upon this success, in 2022, the National Coordination Platform for Restoration was established. The mission of this platform is to coordinate initiatives related to mangroves and, in particular, to: 1) promote the exchange and sharing between institutions, organizations and people concerned by the situation of mangroves in Guinea-Bissau; 2) promote activities related to its areas of intervention; and 3) formulate recommendations for the sustainable management of the ecosystem and its resources. Members of the platform include ex officio members and invited members. This will continue into 2023 by 1) carrying out a ROAM exercise to identify opportunities for mangrove restoration; 2) creating a database of mangrove restoration actions at national level; 3) formulating a proposal for a mangrove conservation law; and 4) developing a national mangrove restoration strategy.

Solar salt production saves wood and reduces strain on women, as compared to traditional methods.
© Pierre Campredon, IBAP

KENYA ARID AND SEMI-ARID LANDS

Project updates and achievements



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- A draft 5-year (2022–2026) FLR implementation plan (FOLAREP) has been developed to restore and sustainably manage deforested and degraded landscapes.
- Capacity needs for restoration monitoring at county and national levels have been assessed and FLR stakeholders have been trained on current tools used for landscape restoration monitoring in Kenya.
- A Non-Timber Forest Products and Services (NTFPS) Strategy has been developed to enhance the sustainable commercialization of NTFPS by conducting a situational analysis of the NTFPS subsector. After a consultation of 50 institutions and review of past and ongoing NTFPS interventions in Kenya, the TRI steering committee has adopted a road map to guide the crafting of NTFPS in 2023.
- Five water infrastructure solutions have been rehabilitated, reaching over 10 000 beneficiaries.

Maasai women belonging to the Namaiyana Cultural Group stand while performing some traditional dances in the Mukogodo Forest. © FAO/Luis Tato

Livelihood diversification for local communities: an option to enhance smallholder resilience and alternative sources of livelihood in the face of climate change

Participatory approaches to land management are key to addressing competing land uses and preserving traditional ways of life in the harsh landscapes within the Mukogodo Forest Reserve in Kenya.

The Mukogodo Forest is a dryland forest at the northern edge of the Laikipia North Subcounty (Laikipia County of Kenya), surrounded by rangelands. Such rangelands are occupied by pastoralist communities whose livelihoods depend on livestock. During dry seasons, cattle enter the forest in search of pasture and water, which increases the threat of deforestation and land degradation. This contributes to the already stressed forest landscape becoming increasingly fragile and vulnerable to climate change. There is a rampant loss of ecosystem services and biodiversity, which collectively undermines the ability of the biophysical environment to sustain human beings and their livelihoods.

Thus, income diversification is important to encourage communities to protect their local environment and natural resources. Given this crucial need, the activities of TRI in the Mukogodo Forest in Kenya have been focused on honey production and value chain development. It is estimated that only 20 percent of the total honey value of the greater Mukogodo Forest landscape is being harvested. This potential is what the Dupoto Beekeepers cooperative is tapping into by acting as a collection and aggregation point, processor and marketer for beekeepers across the Mukogodo Forest.

Mukogodo has diverse agroecological zones – upper highland zones, lower highland zones and lowland zones – which are suitable for beekeeping in different seasons. As such, beekeeping is a smart land-use practice for improved incomes and livelihoods.

The TRI project implemented in Kenya by FAO, together with partners, is working to enhance the livelihoods and socioeconomic circumstances of local beekeepers by targeting skills for the improved production of quality honey and related bee products, better market access and group profitability.

Community Beekeeping Committees were formed under the cooperative to enhance productivity and profitability in the honey value chain. The project is building the capacity in bee colony and beehive management, leadership and governance, and the control of pests and diseases, as well as providing access to quality honey and processing.

Community members gain skills through training, which has been an “eye-opener” to many, and is seen as a contributing factor to bringing back the glory of the great communities of Mukogodo and their forest. So far, membership is steadily growing from 270 to 350 members, along with an increase in beehives from 2 700 to 3 100 in less than one year of implementation. Members have also agreed on honey collection points, and this cooperation is leading to unity of purpose and the reduction of conflicts that previously existed over pastures. Apiculture – with the relevant infrastructure, technology and improved market access for honey and bee products – can build a good business model to create wealth, restore

> *TRI Kenya ASAL project and its partners are promoting the use of participatory forest management (PFM) to restore the Mukogodo landscape’s vitality and empower communities through self-determination.*

Women belonging to the Olingo Lelatia Women Group work collecting firewood in the Mukogodo Forest. © FAO/Luis Tato

the environment, increase biodiversity and improve livelihoods for the people of the greater Mukogodo area.

While these apiculture activities have created important livelihood opportunities within the region, it is important to consider a related issue: the Mukogodo Forest and surrounding community lands have experienced a water crisis recently, with wells, springs, seasonal rivers and dams drying up as the forest has no permanent river flowing through it. Such water crises are largely attributable to climate change and climate variation, prolonged droughts and increased pressure on both forest and water resources, precipitated by an increased population of humans, livestock and wildlife.

TRI is combating this water crisis, by supporting the successful rehabilitation of five water infrastructure sites at a time of low rainfall. This has provided water for more than 10 000 community members.
The project supported the rehabilitation of two boreholes and a concrete tank, the protection of three springs, the replacement of worn pipes, the construction of a new water tank, the installation of solar panels (to power the water pump) and the provision of three troughs for wildlife and livestock at strategic sites.
To ensure sustainable operations and the maintenance of each water point, there is a dedicated community committee at each site.
"The Loolera water project has really helped bring water closer to people. We sincerely thank FAO, the Laikipia Wildlife Forum (LWF) and ILMAMUSI for rehabilitating this spring and piping water closer to our homesteads," said Amos Moiyare, Sieku location.

Such activities were necessary to begin reversing the water crisis in the ecosystem as part of the FLR process. The process also aimed to minimize human–wildlife conflict by rehabilitating and establishing water troughs and water points for wildlife and livestock.

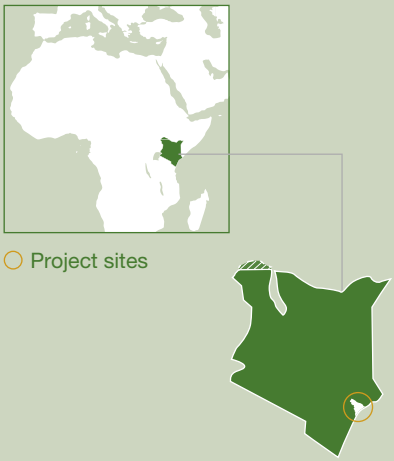
The water potential for wildlife of the Olgiriai water spring has been successfully unlocked in Il Ngwesi Conservancy. "With the rehabilitation works by ILMAMUSI, FAO and LWF, tourists at Il Ngwesi lodge are now able to enjoy interacting with wildlife at the water point established close to the lodge by tapping water from Olgiriai spring and channelling it to the wildlife water point which is close to the lodge. We are really grateful to our partners who made this project a success," said Nancy Tausi, Il Ngwesi Conservancy.

The TRI project in Kenya has provided successful livelihood alternatives through apiculture while simultaneously addressing the needs of community members through water projects. Both actions are critically important in the face of climate change and will continue to be prioritized in future years of project implementation. The project looks forward to learning from fellow successes and lessons learned from projects across the globe.

KENYA TANA DELTA

Project updates and achievements

- The TRI Tana project supported the Tana River County Government to host the fourth Jumuiya, Agribusiness and Blue Economy Investment Conference (JABEIC), which brought together all six coastal counties to showcase innovative investment opportunities and interventions. Interested investors were identified.
- The TRI Tana project facilitated participation of four staff and two representatives of community producer groups at the Agriculture Society of Kenya's Annual Agricultural Show in Mombasa, where they exhibited and shared experiences about agro-based enterprise investments.
- A suite of seven biodiversity-linked, nature-based intergovernmental agreements were implemented, directly benefiting 3 918 individuals (1 635 male, 2 283 female).
- Eleven functional cooperatives were set up and have been engaged in restoration-linked products and services.



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A sunflower farmer in Tana River delta. © UNEP

Restoration-linked businesses contributing to improved household income and sustainable land management in the Tana River delta

With support from the TRI Kenya Tana project, Community Forest Associations (CFAs) are teaching residents how mangrove and indigenous tree restoration can pave the way towards a healthy and prosperous future.

Pastoralism, crop farming, fishing and harvesting of natural resources are the main livelihood activities for many local communities in the Tana River delta of Kenya. However, the lack of established mechanisms for the sustainable use of natural resources, has led to over-exploitation, contributing to degradation and depletion. Most livelihood activities are climate sensitive. Over-reliance on these livelihood streams for survival further exposes local communities to the negative impacts of climate change.

The development and promotion of enterprise-based solutions – centred on the wise use of natural resources – offer a sustainable alternative. Such solutions serve multiple purposes of alleviating pressure on natural resources, enhancing household incomes and strengthening resilience to the negative impacts of climate change.

Since 2019, under the TRI Tana project, the Tana River delta's local communities have been supported to venture into biodiversity- or restoration-based businesses, building on foundational work undertaken by Nature Kenya through previous projects. The need to promote biodiversity- or restoration-based enterprises is informed by a Strategic Environment Assessment (SEA). The SEA was jointly undertaken in 2014 by Nature Kenya and partners to inform the land-use planning process for the delta. The SEA recommended that "economic activities in Tana should include improved management of livestock within the delta and surrounding areas, and the promotion of community-based farming enterprises, supported by private partners, as well as development of freshwater fisheries to provide significant income as well as an important source of food and protein."

The TRI Tana project is working to help communities develop and enhance restoration-linked businesses and value addition through the Green Heart Initiative. This initiative seeks to promote sustainable economic growth, protect the environment, create employment opportunities, improve local livelihoods and boost the regional and national economy. The Green Heart Initiative has two elements, including a Green Heartland (the entire Tana River delta, 130 000 ha) and an industrial estate.

Within the heart of the delta, the TRI Tana project, with co-financing from the EU-funded project "Community Resilience Building in Livelihood and Disaster Risk Management" (REBUILD), has strengthened community capacity to increase sustainable production of agricultural products and nature-based services based on green development principles. Communities have been supported to produce a range of products. The products include milk and beef from livestock, chilli, sunflower, simsim, vegetables, fruits and rice cultivated on private and cooperative farms, along with poultry, fish and honey. Products have been showcased at various events, such as Nature Kenya participating in the Annual Agricultural Show in Mkomani, Mombasa, where Tana delta-branded honey and rice was shared with exhibitors. Tourism is also promoted through the establishment of community wildlife conservancies.

The project has supported the establishment of 11 cooperatives with a combined membership of 2 595 individuals. Strengthening the capacity of the cooperatives has been the major focus. Key elements of capacity building included providing support on membership recruitment, restoration, advocacy, governance and integrated natural resources management. Training in November 2022, with technical support from Tana River County, trained 307 representatives from 11 cooperatives on further topics such as setting up and running sustainable businesses, resource mobilization, business plan development and entrepreneurship, and marketing and distribution. From emphasizing such training priorities, the cooperatives have been deliberately structured to support restoration.

One of these cooperatives, the Tana Delta African Birds Eye Chilli Group, was supported to enter a contract farming agreement with Equator Kenya Limited, an agribusiness investor. Under the agreement, over 160 farmers engaged in chilli farming have expanded their access to quality seed, extension services and markets for their produce. Chilli crops provide several advantages: roots stabilize the soil, minimizing erosion and improving water infiltration, and are overall fast maturing, drought tolerant and less attractive to wild animals.

Throughout 2022, tree seedlings were prioritized as a livelihood improvement mechanism for farmers. The ultimate aim of this activity was to increase the acreage under agroforestry trees and help farmers increase their planting of high-value, fast-maturing fruit trees that also contribute to restoration.

An industrial estate is under establishment as part of the Green Heart Project. Produce harvested from farms will be transported to the industrial estate for processing and packaging, ready for marketing by private companies, including local entrepreneurs. Public finance will help put up supporting infrastructure, including roads, electricity and water. In August 2021, the Tana River County Government donated a 60 ha piece of land in Minjila for the purpose of establishing an industrial estate. The land has been surveyed and a development plan developed and signed by the Tana River County Government. Erecting of beacons, which are physical marks defining the boundary of the land parcel, is ongoing. Mainstreaming of the Green Heart Initiative into the Tana River County Integrated Development Plan is underway. This will enhance the allocation of public finances to develop the requisite infrastructure to service the industrial estate. In addition, a series of investor conferences have been planned.

Between September 2021 and February 2022, four investors with interests in the Tana River delta were identified. Among these is Equator Kenya Ltd that is currently working with local farmers in Tana on chilli production under contract farming. From February 2022, the TRI Tana project is facilitating a consultative process to develop investor vetting guidelines aimed at ensuring adherence to green development principles, where nature values are observed and promoted. A total of 30 investors were reached later on in 2022 during the fourth TRI Tana project-supported JABEIC.

Unsustainable use of natural resources within different production systems contributes, to a large extent, to land degradation and biodiversity loss. Mainstreaming restoration and sustainable use approaches in production systems and empowering local resource users to engage in nature-based enterprises based on green development principles, contributes to the recovery of ecosystems. In turn, enhanced access to ecosystem services strengthens the resilience of communities against negative impacts of climate change.

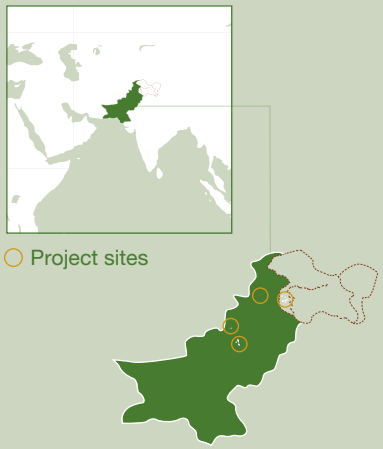
The expected outcome is that investors will promote business and livelihood approaches that promote SLM, reduce land degradation, maintain or increase biodiversity and mitigate against climate change.

A group of women engaged in honey production.
© UNEP

PAKISTAN

Project updates and achievements

- Fourteen Chilgoza Forest Conservation and Protection Committees (CFCPCs) have been constituted, which play a key role in restoration efforts. The project has established 48 assisted natural regeneration sites covering an area of 2 853 ha. Due to the grazing exclusion by the CFCPCs, around 11 million seedlings have emerged.
- Agroforestry is in line with the 10 Billion Tree project of the Ministry of Climate Change (MoCC) and is a suitable tool for diverting pressure from natural forests. Thus far, the project has provided 919 655 forest and 77 397 fruit plants, covering 953 ha of land.
- The project has prepared a forest management and utilization plan for Balochistan covering 26 000 ha, which is unique in its type as it focuses on production in forest restoration.
- Overall, 815 stakeholders (700 male, 115 female) have received training and have participated in capacity-development workshops.



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Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Pine forest in Sherani, Pakistan. © FAO/Mohammad Yahya

Promoting energy-efficient stoves and gasifiers to reduce deforestation in the highly degraded pine forest ecosystem in Pakistan

The TRI Pakistan project is building capacity for local processing of chilgoza pine nuts in the country's northern regions. These actions are helping revitalize these cherished forests while protecting livelihoods.

The chilgoza forests in Pakistan are situated in dry temperate areas, which are primarily among rugged mountains. These forests are either pure stands[v] of chilgoza pine (*Pinus gerardiana*), or mixed stands[vi] with other coniferous species. Chilgoza pine is native to northern Pakistan and a high-value tree best known for its edible pine nuts, which are rich in carbohydrates and protein. In addition to providing various environmental services, this species plays an important role in the livelihoods of communities living close to the forest. Harvested pine nuts are one of the major NTFPs of Pakistan and are primarily traded internationally.

Around the world, high-value forests like the chilgoza pine forests are under threat, which puts these benefits in jeopardy. The threats in the form of deforestation and forest degradation are evident in Pakistan. Deforestation is a particular concern in Sherani Balochistan, as 100 000 mature trees consisting of approximately 21 200 cubic metres (m^3) of timber, were cut down for timber between 1994 and 2014, and around 21 percent of forest cover has been lost in 20 years.[vii] Deforestation in all four regions is particularly rampant near more populated areas, roads and rivers, but even remote areas have been encroached upon during dam construction and oil and gas explorations.

Traditionally, in communities' rights to hold forests, the control of deforestation and forest degradation always remains an issue. The provincial forest departments in all selected regions, except Chitral, have limited reach; limited[4] administrative control; and limited financial, legal and scientific decisions. On the other hand, due to traditional and unsustainable harvesting of NTFPs, existing gaps in the value chain and issues with marketing, the communities of high-value forests remain below the poverty line.

To address these issues on the request of the MoCC and the provincial forest departments, FAO launched the project "Reversing Deforestation and Degradation in High Conservation-Value, Chilgoza Pine Forests in Pakistan" funded by the GEF. This project, part of TRI, aims to improve local livelihoods through increased productivity and enhanced services

Fuel-efficient stove in Sherani, Pakistan. © FAO/Mohammad Yahya

v. A pure stand is one in which at least 80 percent of the trees in the main canopy are of a single species.

vi. A mixed stand is one in which less than 80 percent of the trees in the canopy are of a single species.

vii. In this case, limited is related to the geographical area, as the chilgoza forests are in remote locations, which are not easily accessible, thus, a limited administrative control is the best description.

"The use of improved fuel-efficient stoves is important to save forests. By promoting fuel-efficient stoves, we can save thousands of trees."

Dr Faizul Bari, Natural Resources Manager Adviser, FAO Pakistan

and functions of chilgoza forests in Pakistan. The project is operative in the Sherani District of Balochistan, the South-Waziristan District of the former Federally Administered Tribal Areas, the Chitral District of Khyber Pakhtunkhwa (KPK) and Diamer District of Gilgit-Baltistan, and focuses on the FLR approach. The project aims to restore ecological integrity while improving human well-being through multifunctional landscapes. Building upon the definition by AFR100, FLR is more than just planting trees, it is restoring a whole landscape to meet present and future needs and to offer multiple benefits and land uses over time. The FLR approach can provide valuable models of how to integrate biodiversity conservation, cultural heritage protection and sustainable use of resources. It is an approach that brings conservation "home" to places where people live and work. An approach like this, which emphasizes lived-in landscapes, should not be seen to diminish the importance of strictly protected areas, nor should it be viewed as a rejection of other conservation models. Instead, it is a complementary model, part of a range of strategies for achieving conservation objectives. This approach is particularly appropriate in settings where biodiversity and cultural practices are linked and management must accommodate traditional uses, land ownership patterns and the need to sustain local livelihoods. To showcase the potential of forest restoration in tackling the multiple challenges, both environmental and developmental, the FLR approach was selected to be demonstrated in the project landscape through the implementation of TRI in Pakistan.

Using the FLR approach, four options were identified and prioritized: a) assisted natural regeneration enclosures; b) agroforestry and farm forestry; c) communities' engagement in conservation and protection, and development of linkages with provincial forest departments; and d) value chain development of goods and services produced from chilgoza forests.

Food and Agriculture Organization of the United Nations
Distribution Ceremony of Energy Efficient Stov
"Reversing Deforestation and Degradat
in High Conservation Value Chilgoza Pine Forests
By
orable Minister of State for Climate Ch
Ms. Zartaj Gul
the Beneficiaries of District South

Fuel-efficient stoves distribution ceremony in South Waziristan. © FAO/Daud Shah

Due to the lack of alternate energy sources in the remote mountainous areas, there is heavy pressure on the use of trees and vegetation for fuelwood. According to a survey from Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), 85 percent of the forests were damaged due to fuelwood collection, and only 15 percent for illicit timber harvesting.[5] In this regard, the project provided fuel-efficient stoves to the community, which has resulted in reduced fuelwood consumption, and thus a lesser number of trees cut.

"The use of improved fuel-efficient stoves is important to save forests. By promoting fuel-efficient stoves we can save thousands of trees," said Dr Faizul Bari, Natural Resources Manager Adviser, FAO Pakistan.

Wood consumption for fuel, timber and livelihoods plays a role in forest degradation. To minimize this effect, the project focuses on two types of activities: agroforestry (which copes with fuelwood, livelihoods and timber issues) and innovative fuel-efficient technologies (fuel-efficient stoves and gasifiers). So far, agroforestry interventions have been promoted over 953 ha (in total, 1.12 million plants) in all four regions to support families dependent on forest services, and 2 100 fuel-efficient stoves and gasifiers, and 6 tonnes of pellets have been provided. An average family of 8–10 people consume 18 580 kilograms (kg) of wood for domestic use annually, while the average weight of a tree in the chilgoza forest ecosystem is about 1 tonne. Thus, each year, an average family consumes the equivalent of 18.5 trees.

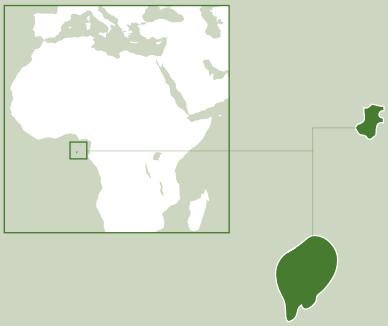
In normal conditions, an improved stove consumes 49 percent less energy than a traditional stove. These improved stoves function very well with small bushes and do not need hardwood. As such, the 2 100 stoves provided in the last 3 years saved 18 900 trees from ash. Therefore, not only has the fuelwood consumption been reduced, but so has the workload on women and children, while health, hygiene and living standards have improved. On average, this provides an overall benefit to the chilgoza forest ecosystem equivalent to about 4 306 ha of forest. According to one of the energy-efficient stove recipients in the valley in Chitral, while enjoying heating and warm water, there has been a saving of 35 percent on fuelwood when cooking.

To expand the TRI project in Pakistan, the community identified four key areas for improvement of their livelihoods, which will be addressed via ongoing small grants in 2023. These priority areas include Rhode Grass Demo Plots, honey beekeeping (apiculture) and medicinal plant harvesting techniques (including the provision of tool kits and techniques). Overall, 425 grants will be distributed among beneficiaries (including 150 honey beekeeping kits, 200 fodder demonstration plots and 75 medicinal plant harvesting tool kits).

A meeting among stakeholders in August 2022.
© FAO Pakistan

SAO TOME AND PRINCIPE

Project updates and achievements



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- One National Forest Landscape Restoration Plan has been produced and validated.
- Five FLR-related policies, laws or regulations have been produced or improved.
- A FAO capacity needs assessment has been carried out in Sao Tome and Principe (STP). Three training courses were organized on FLR, and payments for ecosystem services and related financial instruments were set up. The partnership agreement with Association of Banks of STP (ASB-STP) was signed and established.
- In the four priority landscapes identified by the FLR plan, 3 168 ha of forests have been restored. So far, 1 363 beneficiaries from communities, the administration and civil society have been involved in the planning and implementation of the FLR efforts, approximately 40 percent of whom are women.
- TRI-STP supports seven small and medium-sized bankable projects that link the local economy to sustainable forest management (SFM) while meeting national and international demand for high-quality forest products.

Trainers and operators in a TRI nursery in Sao Tome island. © FAO/Marco Pagliani

The challenge of seedling production in a large-scale forest and landscape restoration plan

The TRI STP project is supporting entrepreneurs as they build sustainable businesses and create new value chains.

The TRI project marked a milestone by introducing the first large-scale FLR programme in STP in 2019. Before this, reforestation and restoration work had been carried out in a scattered fashion under the leadership of the Directorate of Forests and Biodiversity (DFB). When STP joined the TRI network, the ambitious FLR goals set by the project presented new challenges, not only in terms of large-scale planning and high-quality technical information needed to design and implement such a restoration programme, but also how to supply the number of seeds and seedlings required to carry out the work in four priority landscapes across the country (North Sao Tome, Central Sao Tome, South Sao Tome, and Principe).

The first step to fill this gap and ensure a steady and timely supply of seedlings was to design a seedling production plan. The DFB, supported by the TRI team and international experts made available by FAO, released in 2021 a detailed plan that included an assessment of the actual capacity for seedling production and nursery management; an analysis of gaps and needs in terms of materials, knowledge and capacity; and a cost estimation. As the plan revealed in 2020, STP could produce approximately 19 000 seedlings of ten different tree species per production cycle, mainly in the four nurseries managed by the Ministry of Agriculture in both islands. With the assessment phase completed, the programmatic goals were set: raise the number of species to be produced to at least 22 – including endemic, ecologically valuable, fast-growing and agronomically interesting trees – and quantify the total number of approximately 342 000 seedlings needed to meet the short- and medium-term FLR objectives.

Campo do Milho nursery, Sao Tome island.
© FAO/Marco Pagliani

As a second step of the process, the TRI team focused on building partnerships to translate plans into concrete actions: agreements were negotiated and signed with CECAB,[viii] CECAQ11[ix] and CECAFEB,[x] the three national cooperatives engaged in the production of organic cocoa and coffee and whose plantations under increasingly degraded shadow forests are one of the targets of the TRI FLR programme. Meanwhile, the TRI team launched a challenging procurement plan to acquire the materials needed for seedling production – most of which are unavailable on the domestic market. Given the exceptional challenge that seedling production represents, a lively debate emerged among TRI partners: would it be better to produce the new plants in nurseries owned and managed by the national authorities or to outsource production to the private sector? Both options had pros and cons, thus it was decided to try both pathways to test long-term strategies for seedling production in the country.

viii. Cooperative of Organic Cocoa Export (Cooperativa de Exportação do Cacau Biológico).
ix. Cooperative for the Export of Quality Cocoa (Cooperativa para a Exportação de Cacau de Qualidade).
x. Cooperative for the Export of Organic Coffee (Cooperativa para a Exportação de Café Orgânico).

The TRI STP project's investments will help boost a responsible economy founded on forest restoration, conservation and sustainable management on these remarkable islands.

The "outsourcing option" was entrusted to CECAB, one of the most solid TRI partners in the country. CECAB is the largest cooperative in STP, currently producing 650 tonnes of organic cocoa annually, which are mainly exported to European countries. TRI and CECAB agreed on a workplan to restore 6 000 ha of shadow forest managed by the cooperative with approximately 18 500 seedlings.[xi] The first batch of seedlings was commissioned by CECAB to a network of 13 private nurseries spread all over Sao Tome island, which were produced and planted in the spring of 2022. Each of the 1 500 farmers involved planted 6–7 trees per hectare and was provided with a kit of materials. The seedlings were monitored for 12 months, after which all the farmers who achieved a survival rate of no more than one dead seedling per plot would receive another kit of equipment. CECAB is satisfied with the outcome of the first year of operations and the adopted approach. Another component of the work is awareness raising for the cooperative members, who are often reluctant to plant shadow trees in their plots, owing to the long-term nature of the investment. For this reason, the awareness raising focuses on the importance of maintaining productive cocoa plantations for the children of the actual farmers.

As the first field restoration campaign of TRI-STP reached its end, the balance was satisfactory. The FLR operations on the ground started in January 2022, led by DFB and involving the cocoa and coffee cooperatives and the NGOs "Monte Pico" and the Association of Friends of the Principe Biosphere Reserve. A total of 44 107 plants of 48 species were produced, partly in the four nurseries managed by DFB and other TRI partners, and partly procured from 13 private nurseries.

TRI seedling specialist training nursery manager in Sao Tome island.
© FAO/Marco Pagliani

[xi] These 18 500 seedlings were produced by private nurseries, and this is not the total number produced by the project.

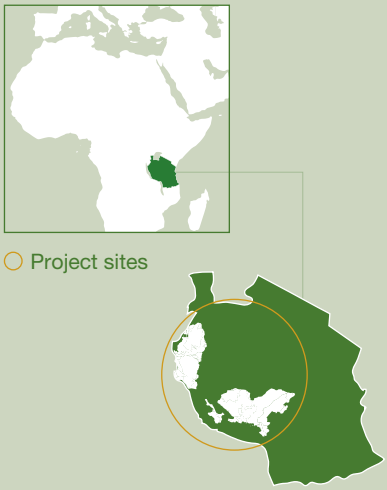
The production cost per seedling is very similar for both options. In the first year, 3 168 ha of forests were restored in the four priority landscapes on both islands, comprising the planting of new seedlings (1 758 ha) and assisted natural regeneration in the buffer zone of the country's two protected areas (1 410 ha). So far, 1 500 beneficiaries have been involved in the planning and implementation of the FLR efforts in the four target landscapes, approximately 40 percent of whom are women.

The TRI restoration work will continue with two more campaigns in 2023 and 2024, with a final goal to restore approximately 12 000 ha of forest and agroforestry land. Technical assistance, including on seedling production and planting, and the design and management of nurseries, is ensured by an international specialist who guarantees direct and remote assistance through a WhatsApp group to the staff and workers of the nurseries. Several challenges remain along the way towards the consolidation of a sound and sustainable seedling production plan that can meet the long-term restoration goals in STP. These include the improvement of state nurseries, the introduction of protocols to produce seedlings that are better adapted to the new conditions brought about by climate change, and the acquisition of specific know-how to restore the highly endangered mangrove stands of the islands. Regarding the latter, the regional Principe branch of DFB is experimenting with a protocol of its own design for the production and plantation of seedlings of Rhizophora mangle (mangue vermelho or red mangrove). The work was successfully implemented in the pilot Abade mangrove forest in 2022 with strong involvement of the local community, and it will be replicated in other mangrove forests of the islands in the coming years.

The regional director of the Directoriate of Forests and Biodiversity checking a restoration plot on Principe Island.
© FAO/Marco Pagliani

UNITED REPUBLIC OF TANZANIA

Project updates and achievements



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

- Five studies have been conducted to inform project implementation – policy baseline, stakeholder participation in sustainable land restoration (SLR), restoration financing, institutional capacity for mainstreaming restoration and biodiversity, training and logistical needs for designing and implementing restoration. Restoration opportunity assessments (ROAs) were conducted in seven project districts, with priority restoration interventions and sites validated by stakeholders.
- Fifteen village land-use plans have been developed in selected villages.
- Memoranda of understanding on the implementation of restoration actions have been signed by participating districts.
- Seven tree nurseries have been established in each project district and funding has been disbursed.
- Thirty community groups have been established to implement environmentally friendly, alternative income-generating activities.
- The project communication strategy and knowledge management plan have been developed, and communication products disseminated.
- A National Restoration Working Group has been constituted, its terms of reference and action plan have been adopted to be rolled out in 2023.

Restoration opportunity assessment enumerators for Greater Ruaha Basin in a group photo. © IUCN Tanzania

Identification, prioritization and validation of restoration interventions: a community-driven and inclusive process was informed by Indigenous Peoples and technical knowledge and best practices on sustainable management of natural resources

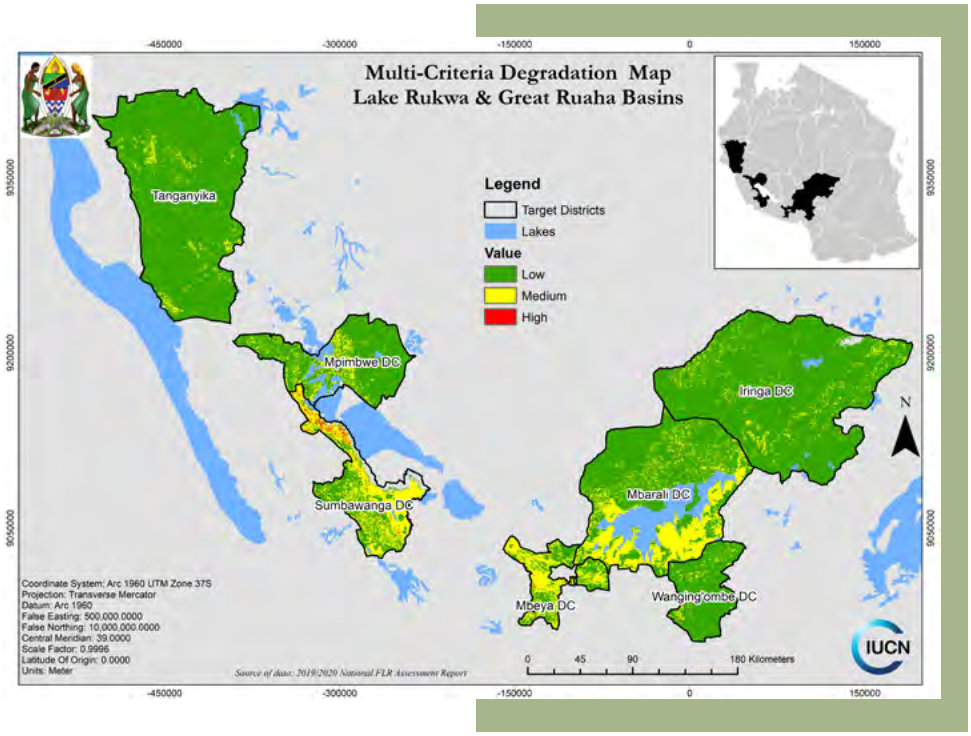
After a delayed start, the TRI United Republic of Tanzania project is preparing a full launch of crucial restoration activities across the Great Ruaha and Lake Rukwa landscapes.

The ROAs were implemented in 18 wards selected from seven district councils in February and March 2022. Rather than hiring consultants with limited local context to undertake the ROAs, the TRI project in the United Republic of Tanzania engaged ROA experts to train district experts as enumerators for the ROA studies. The participation of these experts ensured a smooth operation of the ROAs, especially related to planning, logistics and coordination of the data collection and analysis, and validation of ROA results. Data collected by enumerators established the design of locally relevant SLR interventions. Since ROAs are at the heart of FLR, a good understanding of the methodology ensures that district experts are better placed to facilitate the implementation of SLR interventions including in the provision of technical assistance to communities on the ground.

The identification and validation of restoration interventions and sites took place in the Greater Ruaha and Lake Rukwa Basins, covering seven project districts, namely Iringa, Wanging'ombe, Mbarali, Mbeya, Sumbawanga, Mpimbwe and Tanganyika. The project landscapes are threatened by land degradation arising from unsustainable agriculture, overgrazing, deforestation, bushfires and unsustainable mining.

"Because of the alarming rate of degradation arising from unsustainable grazing and farming practices, our very livelihoods and environment are at risk. We are hopeful that this project will help our efforts to restore our environment and enhance agricultural productivity and household income through the implementation of identified restoration activities," said Grace Udoba, beneficiary, Majimoto-Mpimbwe District.

Widespread landscape degradation across project sites has created a high demand for the TRI project to target all wards in the implementation of SLR interventions. However, given resource constraints, the project can



Map of the seven project districts with potential areas for restoration.
© IUCN Tanzania

"Because of the alarming rate of degradation arising from unsustainable grazing and farming practices, our very livelihoods and environment are at risk. We are hopeful that this project will help our efforts to restore our environment and enhance agricultural productivity and household income through the implementation of identified restoration activities."

Grace Udoba, beneficiary, Majimoto-Mpimbwe District

only operate in selected priority areas. Project beneficiaries and SLR actors convened to prioritize potential areas where the project could intervene using a set of criteria, including availability of land for the implementation of restoration and the potential for biodiversity conservation. The approach ensured that project interventions are directed to the wards most in need of the project efforts, to maximize on-ground impact.

"Restoration of degraded lands presents opportunities for achieving conservation and socioeconomic benefits. Restoring and conserving local forests has the potential to unlock carbon finance, which can help fund social services and conservation initiatives in community forests," said Stephen Mhapa, Council Chair, Iringa District Council.

Dr Selemani S. Jaffo, Minister of State (Environment and Union Affairs), Vice-President's Office, signed memoranda of understanding for district official Stephen E. Katemba, District Executive Director for Mbeya District Council, to advance project implementation. © IUCN Tanzania

Validation of ROA results was critical for the project to verify the recommended restoration interventions and sites to align with the local socioeconomic and biophysical context. Validation was conducted in July and August 2022 at three governance levels: basin, district ward and village level. To address sectoral interests, restoration objectives were agreed upon to ensure that prioritized SLR interventions have the potential to achieve multiple policy (sectoral) objectives and benefit the broader spectrum of stakeholders. In this way, communities and SLR actors rallied around the strategic restoration objectives, thus minimizing the dominance of sectoral interests and preferences in the prioritization of interventions. This process enhanced stakeholder understanding and ownership of the project interventions, and secured political buy-in and support for restoration.

Communities and SLR actors identified existing best practices (e.g. forest management for carbon trading, integrated water resources management and sustainable agriculture) in the project sites that could be synergized and scaled out (or up) to other areas within and outside the project geography. The presence of land-use and natural resource conflicts threatens the sustainability and effectiveness of restoration interventions. To ensure sustainability of the

priority SLR interventions, the project has rolled out the execution of foundational activities such as land-use planning. The project engaged the National Land-Use Planning Commission to undertake village land-use planning starting with 15 out of 38 villages. This process will help address land-use and natural resource-use conflicts, and will catalyse zoning the areas for different land uses that are compatible with restoration.

"I am confident that prioritized restoration interventions will help address landscape degradation in the target districts. I urge communities to participate effectively in the implementation, as they did during the identification of the restoration interventions. District governments and SLR actors should ensure that the project has an impact on the ground and achieves the intended project restoration objectives," commented Dr Selemani S. Jaffo (MP), Minister of State, Vice-President's Office.

Projects often struggle with capacity issues, desire to cover vast geographies (risking spreading too thin), as well as addressing conflicting and competing stakeholder interests and leveraging existing best practices in the design of interventions. These experiences will help programme designers, managers and funders navigate through the challenges to ensure the design and prioritization of priority interventions and sites.

"As a technical partner, IUCN will equip project beneficiaries with relevant skills on restoration practices, technologies and tools to ensure that restoration actions are well implemented and deliver multiple benefits in terms of biodiversity conservation and livelihood improvement," said Doyi Mazenzele, Technical Adviser, IUCN Tanzania, Technical Partner.

Going into 2023, the TRI project in the United Republic of Tanzania will expand upon the established nurseries, funding distribution and a national restoration working group to further achieve restoration aims. Implementation is well underway, and the TRI project in the United Republic of Tanzania looks forward to continuing to learn from fellow project implementers across TRI global projects to exchange lessons learned.

Discussion between the council chair, council for project wards and the project team from the national and district level during a site visit in the project area of Mpimbwe District.
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Notes

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